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THE JOURNAL OF  
CUTANEOUS DISEASES  
INCLUDING SYPHILIS

---

Official Organ of  
The American Dermatological Association

GEORGE M. MacKEE, M.D., NEW YORK  
Editor

VOL. XXXI

**1913**



REBMAN COMPANY  
HERALD SQUARE BUILDING  
141-145 WEST 36TH STREET, NEW YORK

422397  
19.4.44

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REBMAN COMPANY  
NEW YORK

PRINTED IN AMERICA

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# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

JANUARY, 1913

NO. 1

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## EDITORIAL.

### PSYCHOLOGY OF THE SYPHILITIC.

IN considering the psychical manifestations of syphilis, it is necessary to differentiate between incipient psychoses due to alterations in the cerebral cortex and arteries, and the characteristic but at the same time variable *affect* phenomena which are encountered in the psyche of individuals with recent syphilis. The former have an organic substratum, while the latter constitute one of the many forms of alteration of character which proceed from a radical change in external circumstances and are not in any way dependent on structural changes. Dementia præcox and other psychoses that frequently occur in early syphilis should be regarded in the light of complications, although it must be confessed that in some cases it is not always easy to exclude, as an aetiological factor, the influence of a profound systemic intoxication. The subject of syphilophobia, concerning which so much has been written, should not be too hastily or intimately associated with the subject of the psychology of syphilis, for it most frequently occurs in its fullest development in individuals who have never contracted the disease. Dread of a disease like syphilis is quite normal, but the obsession of a psychasthenic should be suspected in all cases where the patient's fixed ideas of the disease are in entire disharmony with the clinical facts.

The idea of a special psychology determined by infection with syphilis should, we believe, have reference to normal subjects only, and we must consider what such an individual does and how he thinks under such circumstances. As a rule, the recent victim of syphilis has little exact information pertaining to the disease, although he may possess some crude notion of a perhaps incurable, disfiguring and altogether reprehensible malady—one well calculated to inter-

fere with his business and social prospects, this latter including matrimony and paternity. The possibility of years of syphilitic manifestations with all the entailed expense and interference with life's original outlook is one well calculated to strike terror into personalities which are even robust, and it is but small wonder that at this juncture weak and impressionable subjects, to escape a sea of troubles, frequently have recourse to self-destruction. A sad condition of affairs sometimes occurs in the sensitive and often brilliant individual who, from a wrong conception of the disease based upon ignorant hearsay, suffers in silence from a sense of impending doom and an ever-present train of morbid thoughts which destroy all incentive and ambition. In another type of syphilitic, the idea may perhaps develop that he is potentially a social outcast and, like others of this class, he may seek in some measure to revenge himself on society; for he doubtless must feel, and often justly, that his affliction is due rather to special ill-fortune than to inherent depravity. Hence, sometimes there develops an apparent irresponsibility in his social relations and in certain cases a shocking indifference as to whether he conveys his disease to others. The necessity for concealment and duplicity enters into his calculations. He finds himself compelled to dissemble and the habit often becomes so fixed that the mendacity of a syphilitic has become almost proverbial. The unreliability of a negative specific history is well recognized by syphilologists and but little consideration is given by them to the statements or denials of some of their patients. Another aspect of moral obliquity and one of no little professional interest, is the financial irresponsibility which may suddenly develop in a man who previous to his infection had enjoyed the full confidence of his business and personal associates.

Fortunately, however, human nature is many-sided; and no one who has ever had occasion to become familiar with the highly ethical view-points of some syphilitics could ever for a moment entertain the belief that the toxins of the disease are able to directly influence the personality of a sound subject. Like all other misfortunes, syphilis may bring out in a given individual the very best as well as the worst qualities. Subjects hitherto careless and irresponsible in their social relations may, as a result of the discipline of the initial shock and consecutive modes of thought, begin to lead lives both ascetic and marked by high altruistic ideals. Even in some cases of suicide, we know that the motives have been applied solely by a sense of duty to others.

The great advances in syphilology during the past few years are

almost certain to modify notably the psychology of the disease. These advances include the discovery of the spirochæta and its pathogenesis, the application of serological tests and the introduction of intensive chemotherapy. All have contributed to increase the confidence of the patient in the ability of the physician to cope with the disease, so that an optimism formerly quite unknown has already become markedly in evidence. Syphilis is no longer regarded as a mysterious disease and it is to be hoped that it will soon cease to be looked upon as one essentially reprehensible. It is now the duty of physicians to do all in their power to remove the unfortunate stigma that has been for so long associated with it and a change in the hostile, skeptical attitude of the public toward the syphilitic should in some manner be brought about, if for no other reason than, in some measure, to simplify the present complex psychology of the disease.

JEROME KINGSBURY.

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## SPECULATIONS AS TO THE CAUSATION OF ECZEMA.\*

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**A**LTHOUGH the day has long since gone by when eczema could be considered a clinical waste basket for the odds and ends of diagnosis, it is as well to present a picture of the condition with which this paper is to deal. The eczematoïd, staphylococcic disease described by Engman, Fordyce and others, which has been elicited by staphylotoxine vaccinations, has no place here. Its origin is sufficiently established. I have chosen the acute generalized process because as a rule the stage of onset is the only one suitable for investigation and because there is no dispute that this is typical eczema. It is a true catarrh at every stage whose exudate consists of serum and lymphocytes. Clinically, the outbreak appears first symmetrically in the form of erythematous patches on the extensor surfaces, cheeks, sides of the neck, outer surface of arms and legs, the flanks and buttocks. The patches are swollen, roughly oval with ill-defined borders which spread peripherally without central clearing. On this patch small vesicles may

\*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

appear or the horny layer is swept off practically en masse and a weeping surface is exposed, the exudate consisting of serum with few cells. With the drying of serum into crusts begins the stage of regression. The fluid exudate is first absorbed from the periphery, ebbing like the tide and there the first scales are seen. Doughy œdema disappears, surface exudation ceases except perhaps in scattered islets of acute relapse, the patch slips into the terminal stage of scaling and clears up, or more often in improperly treated cases, takes on the aspects of chronicity with leathery thickening and lichenification. Only in the last event does the border become sharply defined, not always then.

I am not concerned with the age incidence of eczema, nor with its sexual, racial nor social distribution. Experimental data are practically non-existent bearing on the internal origin of eczema and clinical observations outside the skin, manifestations themselves, are so incomplete as to be useless to all intents. Even when there has been an endeavor to implicate the digestive system in the general aetiology, the authors have confined their attention to one part of the tract such as the stomach. Every student of this subject is familiar with neurotic eczema, so-called, and the wide generalizations drawn from observations so tenuous as to vanish on close examination. Those who still use the term neurotic seem to do so to indicate a type of eczema occurring in a nervous subject. Teething, puberty, menstruation, pregnancy, lactation and the menopause contribute beyond doubt to the prolongation or the exacerbation of an outbreak. None of these physiological disturbances in their essence or in their effects furnish a basic cause for eczema since the disease may and generally does arise independently of any of them. Not even the toxæmia of pregnancy elicits a true eczematous reaction; its expressions are of the bullous type: prurigo, dermatitis herpetiformis and herpes. "Different individuals are not equal before eczema," said Besnier and proceeded to explain on the ground of predisposition the difference between those in whom local irritations would produce eczema and those who did not respond. There lies the crux of the matter. If we knew of what that difference consists, we should have the secret. Heredity plays a negligible rôle in this connection. I have seen young women, victims of weeping eczema during the greater part of their pregnancies, bring into the world children healthy, not only at the time but through the first dentition. If the sensitiveness were transmissible, it surely should be under these conditions. As for the diatheses, gout, diabetes and tuberculosis, it would be difficult to gather together three more unrelated disorders



or to conceive a common basis in them for the causation of eczema. They must be relegated to a place with other contributing factors.

It seems to me at the present time, with the meagerness of precise knowledge clearly in view, that there is but one way to proceed to a summing up of the situation and that is by exclusion. The first question to dispose of is that of parasitism.

#### PARASITISM.

Unna and his followers have been the chief defenders of the theory of bacterial causation of eczema. There is no doubt the great weight of his opinion has kept the controversy alive longer than the evidence advanced warranted. Not only have they not fulfilled Koch's postulates but their work has been repeated by many men with negative results. Török, Scholtz, Jadassohn, Kreibich, Gallo-way, Dockerell, Sabouraud and Gastou have all asserted the sterility of the primary lesion of eczema, the vesicle, or have asserted that the organisms found presented no character which would serve to differentiate them from the staphylococcus albus. Neisser summed up the situation in this regard at the Paris Congress of 1900 when he said: "The sterility of the primitive lesion of eczema appears to be demonstrated." Impetiginous and chronic eczemas, being impure types, are not to be considered. When this work is again reviewed, it should be with the aid of the method of complement deviation early in the course of uncomplicated cases. In the face of positive findings it would still remain to be proved that the organism identified was more than a contamination.

As the primitive lesion and the blood of the eczema patient are sterile and the external causes, excitants truly, operate only in a small proportion of possible cases, it follows that the real basis of the disease must be found within the body which carries it. To sift out any grain of truth, even with methods now in vogue relating to the changes in that body's chemistry, seems nearly a hopeless task. A portion of the ground can be cleared by a process of exclusion.

#### DISORDERS OF DIGESTION.

Those eruptions recognized as being directly due to gastrointestinal intoxication, such as rosacea, are practically always confined to the face; they have a predilection for the site of the sebaceous apparatus and they present none of the clinical features of eczema. They do not desquamate except under treatment; eczema must terminate in a scaling stage. Indigestion occurs often in eczema; as

often and no more so than any other group of inflammations of the skin, barring those mentioned above. I have found it in about forty per cent. of my cases in various grades and symptomatology. Probably hyperacidity is the commonest manifestation; flatulence and indicanuria evidence the presence of intestinal fermentation; diarrhoea and mucous colitis are rather rare complications and constipation is nearly universal. Gastric subacidity and muscular atony are less common. (It required four days for a bismuth meal to pass through one woman, five hours to empty her stomach.) These errors of digestion may exist for years without the slightest sign of eczema appearing; likewise, eczema may run its whole course without the digestive apparatus furnishing a sensation perceptible to the subject.

If eczema is accepted as a clinical entity, its cause must be sought elsewhere than in a functional digestive disturbance occurring in less than a majority of cases and pursuing its even tenor for years in other instances without inducing an eczematous change. The power of digestive disturbance to prolong the cause of an eczema and to increase the severity of the outbreak has nothing to do with the present discussion.

#### ELIMINATION.

Elimination is apparently carried on in the eczematous as in normal individuals. Of course water loss by evaporation is enormously greater when the skin is generally involved, but a balance is easy to establish. I have never seen the renal filters structurally injured in eczema. Serum albuminuria occurs now and again but passes away under proper diet and dilution. Except under restriction, the urinary output of solids is not reduced in those whom I have happened to have under observation at the time of the outbreak. Cardiovascular renal disease influences eczema as little as indigestion.

#### THE NERVOUS SYSTEM.

Demonstrable lesions of the central, peripheral or sympathetic nervous systems are certainly as rare as in the kidney of the eczematous person. Neuritis occurs but very rarely, and does not correspond in its distribution with that of the eczema. Shock is a familiar factor in the incidence of this disease, too common to be passed over. It results from fright, worry and fatigue and, while eczema has never been experimentally produced in that way or any other, it is hard to escape the conviction that faulty innervation of the sympathetic, whose effect has been demonstrated as regards digestion may result in functional disturbance elsewhere in the body.

Even if one is ready to admit that there is a functional derangement of visceral innervation and that in operation it may cause the elaboration of a poison specific for the skin, the theory of a nervous origin for eczema is inadequate as the fields are not coextensive and as all proof is lacking. To my mind, neurotic eczema should have no place in our nomenclature except as referring to an eczema in a nervous subject.

#### INTERMEDIARY METABOLISM.

So far as the metabolism of the inorganic compounds is concerned, we may as well confess to abysmal ignorance at once. The best that can be said as regards eczema is that so far as we know the metabolism of the chlorides, phosphates and calcium is in equilibrium. I have not made out that there was chloride retention even in cases accompanied by great œdema, but the number has been very small. It is unlikely that a transient upset would be accompanied by structural change. Eczema, in its rare lethal outcome, leaves no trace in the tissues.

There need be no hesitation in saying that eczema is not concerned with the metabolism of the carbohydrates or fats.<sup>1</sup> We have no trace in any of our many examinations of the acetone or of reducing bodies in the urine. It seems impossible, in the effort to provide the organism with requisite calories, to overload the assimilative powers sufficiently to produce a transitory glycosuria.

In the last analysis there remains only the nitrogen metabolism to consider—at least so far as present equipment will carry investigation. Is the poison of eczema elaborated in the course of anaphylactic shock, does it appear in the failure of urea synthesis, or must its origin for the present be left for newer methods to elucidate?

#### ANAPHYLAXIS.

On the face of it this is a most attractive theory and is worthy of a detailed examination. Hints as to the possibility of a connection between allergy and eczema have been recently advanced from more than one quarter, notably in Hektoen's review of the subject.<sup>2</sup> One cannot move directly to a triumphant demonstration of the anaphylactic origin of the eczematous process as Bruck has done in urticaria,

<sup>1</sup> Fat digestion is often impaired in eczematous infants, but it is a contributory cause only, since the acetone bodies do not appear in the urine and the condition is not always present.

<sup>2</sup> HEKTOEN. *Jour. Am. Med. Assn.*, lviii, 1912, No. 15, p. 1081.

except under great difficulty. There is no susceptibility in eczema to any particular protein, so far as the history discovers. It would be necessary to inject a series of guinea-pigs passively sensitized with the serum of an eczematous subject, with extracts of all the proteins found in a mixed diet. A positive reaction would have to be very carefully interpreted because urticaria does appear in the course of an eczema and need not necessarily be connected with it except that sensitization with the poisons of the latter may occur in its course. A negative result would mean only that the sensitizing substance had not been found. Lastly, there would be objection on the part of any individual to parting with serum enough for such an elaborate experiment. I hope, nevertheless, to see it done before long. We cannot proceed to a solution until this question of anaphylaxis is settled.

Sensitization in eczema may be accomplished as in urticaria by absorption of foreign proteins or their split products from the intestine during any type of faulty digestion, perhaps from inspired air and at times under great stress from the proteins of the body so changed as to have acquired antigenic powers. The difficulty in accepting an anaphylactic origin for eczema does not lie here and it would be delightfully easy on this ground to explain certain phenomena familiar to all of us, such as the spread of the disease from one part of the body to another and the occurrence of household epidemics inexplicable otherwise. Before it is done, however, the evidence deducible from a comparison of time relations and symptomatology must be reviewed.

Time relations in allergy are definite. The first symptoms of serum disease begin in eight to twelve days after a first injection. In those who have been previously injected the period which corresponds to the height of antibody formation is greatly shortened or absent; the same is true if a second injection is given a few days after the first. Von Pirquet has demonstrated that daily vaccinations in an unvaccinated, for a fortnight, reach a maximum of reaction at about the same time that the reaction in the first becomes due. After the symptoms of anaphylactic shock have lasted for a few hours or days, animals become refractory for about three weeks to the antigen, after which sensitiveness returns gradually. This is true to some extent of human beings in serum disease when the refractory period may lengthen to six months, but is not the usual result in fulminant angioneurotic edema.<sup>1</sup> For comparison an outline of a typical outbreak of eczema is introduced:

<sup>1</sup> JOHNSTON and SCHWARTZ. *Med. Jour.*, New York, March 13, 1909, p. 27.

The patient, a woman of forty, had been under observation for three years for a seborrhœic condition of the scalp which showed occasional relapse in connection with attacks of acute indigestion. She had had no previous outbreak of true eczema, certainly none with surface exudation. On Feb. 25, 1912, an altercation in the household occurred, followed next day by malaise, nervousness and anorexia. From February 27 to March 2nd, there was violent epigastric pain, flatulence, nausea and diarrhœa, this condition showing improvement next day, March 3rd. On March 6th, an erythema appeared on the external surfaces of the thighs and flanks symmetrically. The eruption reached its maximum in intensity, showing serous exudation and spread during March 9th and 10th. The first normal movement of the bowels was noted on March 15th. The epigastric pain returned on the 16th, but the rash declined steadily until on the 19th only a slight scaling was left. The intestinal condition corresponded with that seen in previous attacks.

There is certainly a correspondence here with observations on incubation in allergy if we allow that sensitization was accomplished very soon after the nervous shock, both for the intestinal condition and the attack of eczema. The period of incubation was shortened for the digestive system to two days by previous attacks of intestinal intoxication, whereas a full period of eleven days was required for the full development of the new antibodies. This narration demonstrates nothing more than a complete analogy between the periods of incubation in anaphylaxis and eczema.

With the symptomatology, things are different. In human beings, the signs of anaphylactic shock (serum disease), comprise lowered blood pressure with rapid pulse, depression, dyspnœa, rise of temperature, nausea, vomiting, violent diarrhœa, joint pains and swellings, local and general œdemas, headache, leucopenia, lessened coagulability of the blood and loss of complement with tendency to hæmorrhage. The skin in particular seems to have a marked affinity for foreign proteins and their split products, but the expression of it is urticaria and erythema. These symptoms are much modified in chronic conditions accompanied by anaphylaxis where the individual is somewhat protected by previous small doses of antigen.

In the worst cases of generalized eczema, the rise of temperature rarely exceeds one degree F.; more often there is a subnormal temperature. The pulse is never rapid, except for other causes, the blood pressure tends to rise and vessel tone is always good. Gastro-intestinal symptoms are conspicuously absent as a rule at the onset. Depression and headache are common in all acute intoxications. Joint symptoms and œdemas are certainly not part of the symptom complex in eczema. So far as the blood is concerned, hæmorrhage does not occur in eczema, the coagulating power is not diminished and instead of a leucopenia, the blood count shows a leucocytosis up to 10,000, in which the increase is chiefly lymphocytic. Lastly, we know

that the cutaneous reaction to the struggle between anaphylactic antigen and antibody is not eczema but urticarial-erythematous rashes. On the whole, it seems that there is too wide a divergence between the symptoms of eczema and allergy to permit the linking of the two.

#### FAILURE OF UREA SYNTHESIS.

The urine change indicative of this condition, Schwartz and I have considered in another place. Our opinion has changed very little in the last three years as regards eczema. Defective desamination, failure in the synthesis of amino acids into urea, water and carbon dioxide, demonstrable in the urinary nitrogen ratios, does occur in eczema as it probably does in every disturbance of nitrogen metabolism at times, but it is not and cannot be basic. An eczema may begin and end without appreciable increase in the rest-nitrogen percentage in which the amino-acid fraction is contained, or decrease in the urea ratio when compared with the total nitrogen. In fact, desamination may be notably complete, particularly as compared with the constant failure throughout the course of such diseases as prurigo and herpetiform dermatitis. When it occurs, it may be regarded as a functional disturbance in the course of a profound derangement in the protein metabolism just as heteroloized proteins under the same conditions may produce an urticaria. When the failure develops, an eczema becomes worse as it does from local irritation or indigestion.

The amount of urea excreted is not an index of elimination. It may be high or low if it is in equilibrium. The amino acids, which constitute a large part of the rest nitrogen are non-poisonous like urea and, since Folin<sup>1</sup> has shown that they are stored in the tissues, they may be considered to constitute in large part the tissue supply of nitrogen. The other constituents of the undetermined ratio—peptone, albumose, colloidal nitrogen, xanthin compounds—may contain the toxine of eczema. If they do there is no proof of the fact, and they are found in health as well as in disease.

#### CONCLUSION.

By a process of exclusion, the causation of eczema may be narrowed down to a derangement of the nitrogen metabolism neither anaphylactic nor a defective synthesis of urea, but occurring where for the moment biochemistry cannot demonstrate it. Color is lent

<sup>1</sup> FOLIN. *Jour. Biol. Chem.*, February and March, 1912.

to the theory by the appearance in its course of allergic phenomena and urinary evidence of incomplete desamidation. Perhaps the fault lies in a failure of protein—splitting in the intestinal wall or the blood stream before the tissues select their store of amino-acid nitrogen.

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## THE EXTERNAL ORIGIN OF ECZEMA, PARTICULARLY THE OCCUPATIONAL ECZEMAS, AS BASED ON A STUDY OF 4,142 CASES.\*

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ACCORDING to Hebra, *Ætius of Amida* (A. D. 543) was the first to mention the term *eczema*. Willan was the first to describe the disease, merging the cases of mercurial dermatitis, vesicular dermatitis caused by sunburn and the still more often encountered, partly vesicular and partly pustular skin affections following the application of irritating plasters, vesicants, antimony and arsenic, into a single class. Rayer advanced much farther in his classification and cohesion of the various types of the disease. According to Unna, the *eczema* described by Willan should be classed as an acute vesicular traumatic dermatitis and Rayer's as a chronic, non-traumatic, vesicular, or dry, *impetigo-perrigo-eczema*. Rayer created the extraordinary multiformity of the disease. *Devergie* separated Willan's and Rayer's *eczemas*. He also declared that the vesicle was not the only characteristic of the disease and instead set up four cardinal symptoms: redness, secretion, porosity of the skin surface and itching. *Erasmus Wilson* was the first to declare that the dry forms were as much *eczema* as the moist variety. *McCall Anderson* emphasized the fact that the hyperæmic scaly patch was an important form of the commencement of the disease. *Hebra* enlarged upon the external origin of the affection.

The ætiology of *eczema* has been of the greatest interest to the dermatologist, particularly since the importance of the affection has

\*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

been realized. As eczema comprises such a large percentage in our dermatological life it behooves all of us to study our cases more carefully, particularly in regard to the possibility of an external origin. The further one goes the greater is the realization that in a large proportion of the cases that have been diagnosed as eczema an external ætiological factor can be definitely determined. This study is based on a review of 24,459 cases of diseases of the skin observed by the writer during the last nine years in the Dermatological clinics of the Pennsylvania, the University and the Howard Hospitals; of this number there were 4,142 of eczema. Fully one-quarter of the cases diagnosed as eczema were of determinable external causation and probably a considerable number of others had some indeterminate predisposing or causative external factor.

The study of the external ætiology of eczema may be divided into three divisions: parasitic origin of the disease, eczema from irritants, exclusive of the so-called occupation and trade eczemas.

#### ECZEMA OF SUPPOSED PARASITIC ORIGIN.

Unna has been the strongest advocate of the parasitic origin of eczema, believing that one special organism was the causative factor. He gave the term of *morococcus* to the organism because of the mulberry formation. Unna has investigated more than seventy cases of chronic eczema histologically and in a very large proportion of these he has identified this particular organism. He rests his assertion that the *morococcus* is the cause of this disease, mainly on the following evidence: 1. Its presence in the vesicles of acute eczema. 2. That the *morococci* are taken up by the phagocytic leucocytes in these vesicles. 3. That it is almost invariably present in the crusted varieties of eczema. 4. Pure cultures of this organism provoke by artificial inoculation an eczematoid lesion in human skin.

Galloway and Eyre made a bacteriological study of eczema and found that cocci which produced whitish cultures were present in early and uncomplicated lesions of papulo-vesicular eczema. These cocci agreed in most of their biological properties but varied in certain particulars in different strains.

Welch found that after even the most careful disinfection of the skin it is possible to obtain cultures from the deep layers of the epidermis, of a staphylococcus producing white colonies, but possessed of only a low degree of virulence, which he called *staphylococcus epidermidis albus*. Whitfield experimented on the erythemat-



squamous type of the disease and in each of the twelve cases examined a coccus was found, arranged in pairs, chains or groups. The coccus seemed to be identical with that found by Merrill in seborrhœic eczema.

Payne has found the morococcus and also a diplococcus, possibly identical with that found by Russell in Savill's cases. In regard to the relationship of microorganisms to disease, certain organisms are found normally in the skin, among which are included some species of the saccharomyces and probably the giant bacillus (Flaschen-Bacillus of Malassez-Unna). Roberts found the giant bacillus in twenty-two out of forty consecutive observations. Their presence bore no relation to disease but rather to the condition of the horny cells.

Bender, Bockhart and Gerlach have carried on some extremely interesting investigations in the experimental aetiology of eczema. The authors sought to define the relation between the pyogenic staphylococci (*staphylococcus pyogenes aureus* and *albus*) and eczema. They made a sharp distinction between the effects of the staphylococci, or the poisons contained in the living organism, and the effect produced by the toxines elaborated by these organisms. They found that the inoculation of virulent cultures of these staphylococci in agar on the irritated skin never produces eczema. As the result of such inoculations impetigo staphylogenes, furuncle and abscess may result, but never eczema. Isolated living and virulent staphylococci, free from toxines, produce impetigo staphylogenes when inoculated on the skin, but never eczema. Filtered bouillon cultures of these staphylococci are noxious to the human skin. Such filtrates can produce on the human skin typical acute vesicular or papular eczema. This result may be obtained whether the skin is irritated or disinfected. This form of eczema has a very similar appearance and runs a similar course to artificial eczema excited by irritating chemical reagents. It is the *staphylococcus-toxine* and not the staphylococci themselves that produce eczema.

Bockhart has written another paper on the aetiology of eczema and considers that it is an infective inflammation of the skin and staphylococci are the originators of the infection. According to Bockhart, eczema commences and develops in the following manner: The healthy skin-follicle of a predisposed individual may contain living but inactive staphylococci; these staphylococci are enabled to assume a more active life by some cause acting from within or without the body which improves the nutritive material for the cocci within the follicles themselves. One result of the increased

metabolism of the cocci is the excretion of staphylotoxin. As soon as the staphylotoxin diffuses from the follicle into the epidermis, it commences to display a serotactic influence by the formation of papules and vesicles. Should the eczema refuse to heal and become chronic there appear other alterations of the tissues of the corium and subcutaneous connective tissue, which are not brought about directly by the action of the staphylococci. Numerous investigators have given a considerable amount of attention to this phase of the subject, particularly Török, Sabouraud, Brocq, Veillon, Scholtz and Raab, Kreibich, Gilchrist and Elliot.

The consensus of views on the subject of the parasitology of eczema can best be drawn by the deductions made at the Fourth International Congress of Dermatology, held in Paris in 1900:

1. The majority of dermatologists do not regard eczema as a parasitic disease due to a specific organism, nor as a parasitic disease the various forms of which correspond to different organisms.

2. The morococcus of Unna is almost universally regarded as an ordinary staphylococcus with a slight peculiarity in its growth and grouping and not as a perfectly distinct microörganism.

3. Most observers are agreed that in the later stages of eczema staphylococci and streptococci play an important part in the evolution of the lesion.

Before leaving the subject of the parasitic origin of eczema mention should be made of the important work of Sabouraud, Moukhtar and Whitfield in determining that certain cases of eczema involving the hands and feet are in reality ringworm and caused by the trichophyton fungus.

#### ECZEMA OF EXTERNAL ORIGIN, INDEPENDENT OF OCCUPATION.

The various external factors which cause an eczema, exclusive of occupational pursuits, are almost too numerous to mention and the subject can be touched upon only.

Hall has made a systematic study of sixty cases of infantile eczema and considers that practically all cases of infantile eczema are of external causation. If the irritation is continued in the same way, and limited to the original situations, other distant parts of the skin gradually or suddenly become affected, the intervening skin being apparently normal. After a time the reaction is capable of being produced or kept up by other and less powerful irritants than that which first produced it.

The writer in numerous instances has been forced to come to

the same conclusions as Hall, namely, that numerous cases of infantile eczema are exclusively of external origin.

The effect of cold and heat and the various climatic conditions are conducive to eczema. Corlett has described fourteen cases, closely allied to eczema, under the name of dermatitis hiemalis, due to the cold of the weather, the air in motion and the humidity. The writer has seen ten cases of a somewhat similar type in school children, each having had the outbreak for several winters in succession, the eruption disappearing with the advent of the warmer weather. Cracking and roughness of the lips have also been noted in numerous instances during the winter months. Intertrigo so frequently noted in young children during the summer months not infrequently goes on to an eczema.

The local irritating effect of drugs often leads to the development of a true eczema. Iodoform, sulphur and mercury, in the writer's experience, having been most frequently causal. A typical case of traumatic eczema might be mentioned: A millhand injured his feet with a heavy roller, the bruised area was rubbed and scratched and a proprietary remedy was applied; the condition developed into a true vesicular eczema. The instances of the application of some patent or proprietary medicine for the relief of a trivial condition of the skin thereby producing an eczema are too numerous to mention. Recently a case had been seen in the University Skin Dispensary. A patient of ninety-two years rubbed an irritating oil posteriorily to the ears for the "relief" of failing vision; an acute vesicular eczema was the result. This eruption has now lasted for some weeks and has spread over a considerable portion of the face.

Practically all dermatologists have seen numerous instances of an acute eczema produced by the various proprietary hair-dyes and hair lotions. Chipman has recorded six cases of severe dermatitis, running into eczema, which have been induced by the application of paraphenylenediamin hair stain. This substance, when oxidized by means of a solution of hydrogen dioxide, becomes an intense black. The reaction frequently occurs several days or weeks after the last application of the dye. According to Mewborn, the chemical process involves the production of quinone, by the union of a solution of paraphenylenediamin with oxygenated water. The eruption is noted on the scalp, the face and may extend downward on the neck, shoulders, the arms and the chest. Morrow, also, refers to this same hair-dye, the eruption produced thereby sometimes persisting for six to eight weeks after the application. He knows of

no other agent which when applied to the skin produces such a persistent eruption. The outbreak is usually of a vesico-pustular type. Scharff has reported an outbreak following the application of Javel hair lotion.

Walsh has reported an outbreak of eczema on the finger from the wearing of an old brass thimble. The writer has recently seen an eczema which attacked the ring finger and the one adjoining, apparently from the wearing of a brass ring. When the ring was changed to the other hand, the finger upon which the ring was worn exhibited an eczematous outbreak.

Hartzell has mentioned cases of eczema arising from the wearing of fur coats. Foerster has recorded an instance of the outbreak of an eruption on the wrists and the neck from the fur of an overcoat coming in contact with these areas.

Foerster has also recorded instances of eruptions on the lips from the use of a proprietary mouth wash.

The aniline dyes in clothes are productive of an outbreak, particularly in gloves, socks, flannel shirts, drawers, etc. The process may continue for months. J. C. White considers that the red dyes and also the black aniline dyes may cause an outbreak. The contamination of the dye with arsenic is supposed to be the real cause of these outbreaks, but some ascribe them to the aniline itself.

#### ERUPTIONS FROM PLANTS.

It might be questioned whether the various irritating plants should be mentioned in the category of the present paper, but in susceptible individuals the eruption may continue for a considerable period even after the irritating cause has been removed, and, therefore, the writer considers that these may be permissibly mentioned. An exhaustive paper has been written by James C. White upon the eruption caused by the *Rhus toxicodendron*, the poison-oak, the *Rhus venenata*, the *Rhus diversiculoba*, the *Rhus pumila*, the *Rhus vernix* and others. A dermatitis from cow parsnip (*Heracleum giganteum*) has recently been reported by Stowers. Hoffmann has seen cases caused by the chrysanthemum, fresh squill root, and arbor vitae. Dawson, also, has recorded a case of chrysanthemum eruption.

An interesting account has recently been written by Walsh of a dermatitis among the flower-pickers in the Sicily Islands, the so-called "lilly-rash." The author noticed the rash in those who were engaged in gathering and packing the various kinds of daffodil. The flowers that caused the rash belong to the narcissus tribe, the

narcissus being more poisonous than the daffodil. All portions of these plants seem to be productive of an outbreak: the plant juices, the stalks, the flowers and the leaves. The eruption may be erythematous, papular, vesicular or pustular and at times squamous. The hands and arms, the face not infrequently, and in a few instances the general surface is involved. Some workers escape the rash altogether, some are attacked only the once, while others are so susceptible that they dare not touch the flowers. The attacks are more severe in those individuals with breaks in the skin. Some varieties of the daffodil and the narcissus are more poisonous than others.

One of the most interesting plant eruptions is caused by contact with the primrose, certain species of which are particularly apt to cause an outbreak: the *Primula obconica* and the *Primula sinensis*. James C. White, Hoffmann, Thibierge and Foerster have written extensively on the subject. Foerster has seen between forty and fifty cases. He states that the eruption is of three types: the erythemato-vesicular, in those most susceptible; erythemato-vesicular to an erythemato-squamous, in the less acute type of outbreak, with considerable infiltration and scaling continued over a long period, and puffed, tense and slightly reddened appearance of the fingers; and, finally, a papulo-vesicular type. The eruption is most often found on the hands, the forearms and the face. The outbreak in some of the cases lasted for several months. According to Nestler, the source of irritation is probably found in the crystals in the secretion exuded from and covering the glandular hairs of the leaves.

Eczema is quite often noticed following various diseases of the skin, particularly the parasitic diseases such as scabies and pediculosis. Numerous instances have been noted on the neck and the face, chiefly, however, posterior to the ears, probably from scratching and rubbing of the cutaneous surface, particularly in children with ova and pediculi in the scalp. The extreme pruritus associated with a considerable number of diseases of the skin may lead to an eczematous outbreak from rubbing and scratching.

The list of cases of so-called traumatic eczema might be indefinitely prolonged, such as pressure from the wearing of trusses, garters, belts, ear-rings, bracelets, and articles of dress worn too tightly, such as stays, waistbands, caps, hats, braces, etc.

#### OCCUPATION ECZEMA.

This portion of the subject under discussion is one of peculiar interest to the writer, because of the numerous cases that have been seen during the last nine years and will be dwelt upon at some

length. Of the 4,142 cases of this affection, 768 were from distinct occupational causes. Numerous other predisposing causes, which either directly or indirectly influenced an outbreak, would swell the proportion of cases of external origin. Particularly among these might be mentioned those occupations which necessitated prolonged standing on the feet, producing stasis of the lower extremities and a great tendency to the well-known *eczema rubrum* type of eruption. **But only those cases have been included in which an eruption was noted upon the hands or arms and in which an occupational pursuit can be plainly indicated as causal.** In quite a number of the cases the outbreak was not alone limited to the parts exposed to the irritating cause, but the eruption tended to spread to other portions of the skin surface. No deductions can be drawn from the age or the nationality of the patient as to an increased susceptibility at different decades. The sex, also, was not of help, because in certain occupations women only were found while in others the reverse was true. The average duration of the outbreak, the number of relapses, the length of time after starting work before the eruption appeared varied so much in the different cases that it is practically an impossibility to calculate a mean. It should, however, be stated that the very large majority of the outbreaks was noted during the winter months, in practically all the occupations; the great majority of the cases lasted over a period of weeks or months, even after stopping the irritating occupation, and the eruptions tended to relapse; less irritation being required for a second attack than for the first. According to Bowen, after the disappearance of a dermatitis or an *eczema* "damaged cells" remain or "irritable" vessels, so that causes that would be innocuous to a healthy skin are sufficient to give rise to an attack of *eczema*.

Fordyce states that in his clinic at the University and Bellevue Hospital Medical College about two per cent. of the total number of new cases for 1911 constituted occupation dermatoses, of which nearly one-third were seen in persons whose vocations necessitated the frequent employment of soap and water and in some cases the various cleansing alkalis.

Gardner has recorded 187 cases of occupation dermatitis; 102 were noted in males and 85 in females. Most of these cases developed during July. Among the male patients, laborers, miners, painters, joiners and rubber workers headed the list. The most frequently found causes among the female patients were in housewives, laundresses and rubber workers. The causes in the order of frequency seemed to be soap and washing materials, moisture and mud,

hot substances, varnishes and paints, alkalies and acids, naphtha, sugar, paraffin and flour. The parts most frequently attacked were the hands alone, then the hands, arms, face and the neck. In 11 of his cases the rash was universal; in 42, marked seborrhœa was noted, and in 23, hyperidrosis. According to Gardner, most patients were attacked either a week or two after going to work or not until they had followed the same employment for quite a length of time.

Jacquet and Jourdanet have reported 27 cases of trade dermatitis attacking the hands. The study of their cases was taken up chiefly from the ataraxic régime point of view.

#### HOUSEWORKERS' ECZEMA.

Housewives who, because of financial reasons, are compelled to do all of their own work—cleaning, washing and cooking—furnish the largest number of cases of this affection; 264 were noticed in those performing household duties; 1 in a butler, 3 laundresses, 4 waitresses, 6 waiters, 1 bottle washer, 2 dishwashers and 7 cooks were attacked. The vesicular or the squamous was the usual type of outbreak observed; the combination of the two was next most frequently found; the erythematous, the papular and the rubrum types were also present in a few instances. The hands were attacked in every case, the arms in addition, in the majority. In quite a few instances the eruption spread to other portions of the cutaneous surface, such as the legs, the ankles, the feet, the face and the neck. The almost constant use of water, combined with the irritating effect of soaps, usually the strong soda and naphtha soaps and the various irritating substances used in the cleaning of the house, point to the cause of the outbreak. The extraction of the fat and the maceration of the horny cells by the excessive use of soap and water reduces the resistance of the skin; they may then act as direct irritants.

Lewkowitsch, in an illuminating article on the "Modern Views on the Constitution of Soap," shows how inaccurately the great majority of soaps are manufactured; the proportion of the various ingredients exhibit great variations even in the same make of soap. The changes in the formulæ point to an eruption from the increase of some of the irritating ingredients. Alpers states that the cocoanut oil soap, which is largely used as a fine toilet soap, frequently causes an eczematous outbreak upon the hands.

#### LABORERS' ECZEMA.

Laborers who are subjected to all kinds of weather conditions and a large variety of irritating substances are prone to this affection. Forty-three cases have been observed; also, one in a longshoreman, one pushcart pedler, one patrolman, seven teamsters, one streetsweeper, four watchmen, three pedlers, one janitor and one warehouseman.

#### WOODWORKERS' ECZEMA.

The dermatitis caused by the handling of wood covers a considerable number of different trades and several species of wood are productive of an outbreak. Flute makers who use cocus wood are liable to an eruption, probably from a resin in the wood. Crocker has reported cases.

Cash has written an article on the dermatitis caused by East Indian satin-

wood, mentioning two epidemics in shipyards on the Clyde from this cause. The East Indian satinwood is more apt to cause the dermatitis than the West Indian variety. The alkaloid chloroxylinone contained in the wood acts as the irritating cause of this eruption. The author found that the local application of East Indian satinwood dust, whether dry, moistened by water or almond oil, occasioned an eruption in an observer who had already experienced the condition after chloroxylinone contact. Toward the human skin this alkaloid and its salts (hydrochloride and nitrate) proved themselves to be insidious but powerful irritants. In the mildest form papules only may show upon the reddened surface; vesicles, œdema and an erysipeloid condition are evidence of a more energetic action. The forearms and arms are most frequently attacked; in some cases, however, the face, the ears, the neck and, in exceptional instances, the trunk may exhibit the outbreak. Jones, Gardner and Wechsehnann have written on the subject.

Teak wood has been recorded as causing a dermatitis. The exciting cause is believed to be an essential oil derived from the central part of the tree and present in the dust.

The writer has seen three eczematous eruptions on the hands and the arms of furniture finishers, one in a wood carver, one in a hardwood finisher, five in cabinet makers, one in a wood turner, four in carpenters, two in wooden box makers and one in a lumber handler. Some of these cases handled methyl or impure alcohol, impure turpentine and benzine and one attributed his outbreak to creosote in the lumber. An eruption was also noted in one instance in a match maker, the eruption probably being due to some chemical rather than to the wood itself.

#### PHOTOGRAPHERS' ECZEMA.

Beers has written an article on the dermatitis due to the irritating effect of metol. Metol, or monomethylparamidophenolsulphate, is a synthetic compound in the form of a white crystalline powder. Its use is practically limited to photography. A great many photographers who work with impunity in the preparation for years finally succumb to an eruption from this cause. Beers, to further disprove this theory of immunity, has applied a normal solution of metol to the soft skin of the upper arms of two professionals who considered themselves immune; within forty-eight hours both gentlemen complained of burning and itching and exhibited circumscribed erythematous areas at the site of application. The eruption noted consists of redness, swelling, vesicle formation and crusting. The eruption is usually limited to the fingers and the hands, sometimes the forearms and exceptionally the face. After one attack the susceptibility to the eruption increases. Four photographers and one photo-engraver were noted to have the outbreak in the writer's series. Bichromate of potash may cause an eruption in autotype photographers. An eruption has also been noted in a moving-picture operator, from the handling of the films, the carbon and cement.

#### PRINTING-TRADE ECZEMA.

Several cases of eczema have been noted in the printing trade or those handling ink. Eight cases have been noted in printers, two in typesetters, one in a press-room worker, one in a handler of the dye press, one in an architect, one in a draftsman and one in a newspaper seller. The helper around a type foundry is apt to have an outbreak because of the irritating oils he is forced to handle. The electrotypers handle lye to wash off the forms because of the graphite and the dust. They take a mold, consisting of plumbago and wax, and place it in a wash of bluestone and muriatic acid, an electric current is then turned on and a copper coating is formed on this wax "shell." This shell remains in the



solution for from forty to forty-five minutes. This mold is then placed in a machine and lead is run in on it, the wax is then removed and the electrotpe is finished. Stereotypers use a lead mold without the copper surface. The compositors handle only gasoline or benzine to clean the type. The eruption is therefore more apt to occur in the electrotpers, the stereotypers, the helpers in the foundry and in the makers of the molds rather than in the compositors.

### PAINTERS' ECZEMA.

The various trades associated with the use of paints are a prolific source of an outbreak. Shellac, turpentine and alcohol in these lines probably being causal. Twelve cases of this affection has been seen in painters, one in a screen factory worker, an employee in a paint shop, three cases in piano finishers, in a picture framer, two in gilders, one in a varnisher, one in a car painter and one in an artist. Shellac not infrequently contains the sulphide of arsenic.

### ECZEMA OF MILLWORKERS.

Leloir has written an instructive article on the subject of eczema of spinners of flax. The affection attacks the hands, the left hand, however, more than the right, both surfaces of the fingers and exceptionally the forearms. The types of eruption noted were the erythemato-vesicular, the vesico-pustular and the squamous. In quite a number of instances the outbreak subsided within two weeks after stopping the occupation, while in others it lasted for months. The face was attacked in a few instances. An eruption was noted upon the feet of some of the workers. The threads of flax are passed through large boxes, containing very hot water, to untangle the threads and to remove certain impurities. Butyric and lactic acids are employed in the transformation of the mucilaginous principle of the flax. The hands of the workers are almost constantly in this unclean and chemically contaminated hot water. The dripping from these boxes on the floor causes the irritation upon the bare feet of the employees. Lefebvre has also written an article on this subject.

The writer has seen an outbreak in five employees in a cotton mill, four in woolen mills, four in weavers, one in a spindle worker, three others in mill workers, one worker in a cloth mill, one in a lace maker, one in a dyer and two others in silk dyers. The workers in the dye-houses connected with the mills are much more apt to have an outbreak than the other employees because of the acids handled in their work.

### BLEACHERS' AND CLEANERS' ECZEMA.

Purden calls attention to an unusual source of an eczematous outbreak. In the vicinity of Belfast linen is stretched out on the grass to dry after the bleaching process. Various chemicals are used in this process—chloride of lime and "vitrol." The hands are attacked by the eruption, chiefly the palms. The eczema is of the squamous type. The condition tends to relapse. Two cases of eczema have been noted by the writer in cleaners, the one a dry cleaner, who used acids in her work, and the other cleaned gloves with benzine.

### CLOTH HANDLERS' ECZEMA.

It is rather hard to offer an explanation for the frequency of occurrence of an eczema in those individuals who are called upon in their vocation to handle cloth, excepting that the dyes are of aetiological significance. Sixteen cases of this affection have been noted in tailors, four in cloth skirtmakers, ten in cloth clerks, one in a clothmaker, five in pressers and one in a percher.

## TANNERS' ECZEMA.

Tanners are very subject to attacks of eczema of the hands and the forearms. The cause of the eruption in the tanning trade is due apparently to the chemical process to which the hide or leather is subjected. The hide is placed in a bath of bichromate of potash and muriatic acid, the combination of the two making chromic acid. The workers' hands are in this solution a considerable portion of the time, causing in many instances great irritation of the skin. The eruption on the skin from this procedure may last for weeks and months, compelling in not a few instances the workman to suspend work in this line either temporarily or permanently. This chroming process, or, particularly, mineral tannage, is an exceedingly complicated procedure, but the acid bath described is unquestionably the source of the outbreak.

Aurantia, or hexanitrophenylamin, is used for cheap yellow leather shoes and other leather goods, and workers in this preparation are apt to have an outbreak. Crocker and also Hellier have reported instances of an eruption from this preparation.

The writer has seen eczema of the fingers, hand and forearms in five tanners, one morocco finisher, two morocco workers, one pocketbook maker, five shoemakers and one bootblack. The last six cases can scarcely be attributed to the handling of the leather but rather to the various irritating substances used in their trade.

## COOPERS' ECZEMA.

The cause of the outbreak in this trade seems to be the strong caustic soda used in cleaning the barrels and the irritating effect of the paint in rejuvenating them. Three cases have been seen.

ECZEMA OF PHYSICIANS, DENTISTS, NURSES, ATTENDANTS AND  
THOSE HANDLING DRUGS AND CHEMICALS.

Lassar has written on "Das Eczem der Chirurgen," mentioning the various preparations used by physicians which are irritating to the skin; the bichloride of mercury and carbolic acid are especially emphasized. Hall has recorded an example of so-called traumatic eczema; a chemical investigator was engaged in some research work and suffered with an irritable eruption which appeared from time to time upon the fingers. He finally discovered that the offending irritant was one single substance—phenylhydrazinhydrochloride. A small quantity of this chemical touching his finger produced within a few minutes a great local irritation, followed by a vesicular eruption; in a few hours' time a widely spread acute eczema developed, which tended to attack the face, the ears, the neck, the inguinal region and the scrotum. After removing every trace of this substance from his laboratory the attacks ceased.

Four cases of eruption on the fingers and the hands have been met with in dentists, one in a dental machinist, three in hospital orderlies, one in a laboratory worker, eight in physicians or medical students, one in a professional rubber, three in drug clerks, one in an employee of a chemical works and three in nurses. The use of the irritating soaps—saponis viridis, etc., has had some causation, but the germicidal solutions, such as a strong bichloride of mercury and carbolic acid, used for disinfection have contributed a greater share. I recall a medical student in the University of Pennsylvania who had to give up all thought of becoming a physician because of his susceptibility to these solutions. Formalin, or formaldehyde, is another irritating substance which is apt to cause an outbreak. There are three physicians whom I know intimately at the present time, who do a considerable amount of research work and who are

extremely susceptible to formalin, even in weak solutions; a four per cent. dilution usually is employed by them. After several attacks from the use of this preparation the slightest exposure to the drug will cause another outbreak; in one instance even the fumes of this substance in a room caused a relapse.

### ECZEMA OF WORKERS IN SUGAR, CANDY AND CHOCOLATE.

Sugar, candy and chocolate makers furnish us with a goodly number of eruptions of an eczematous type upon the hands and at times upon the forearms. An outbreak was noted in four female candy makers and in two of the male sex, three working in a sugar refinery and one was a chocolate roaster. It is rather hard to determine the causation of the outbreak in these individuals, but these trades were undoubtedly the cause, for the condition relapsed when the patients resumed their occupations. It has been suggested as a cause for the outbreak that a mite may be present in the ray sugar.

### BAKERS' ECZEMA.

Bakers' eczema was first referred to in literature by Willan, who published a plate, in 1817, under the erroneous title of psoriasis diffusa. Numerous instances have been noted by a large number of observers and attacks of this condition in bakers are universally recognized. The writer has seen eleven cases of this affection. The exciting cause is probably the heat, although both the flour and a mite said to live in the flour have been incriminated.

### BARBERS' ECZEMA.

Barbers whose hands are so constantly wet with water, with the rubbing in of soap for shaving, in shampooing with the various soap preparations, in the use of quinine hair tonics, proprietary aniline hair dyes, possibly cantharidal lotions and alcoholic solutions, combined in not a few instances with the dryness of the skin associated with the cold weather, are frequently attacked with an eczematous eruption of the fingers, the hands and in some instances the forearms. Fifteen cases have been observed.

### BARTENDERS' OR LIQUOR DEALERS' ECZEMA.

In bartenders, whose hands are compelled to be in water a considerable part of the time in washing the glasses, cleaning the counter and polishing the brass work, the fingers, the hands, and occasionally the forearms moistened or wet with the alcohol and irritating substances in the mixing of drinks, not infrequently exhibit an outbreak upon these areas. The eruption may be very persistent and tend to relapse. Eight cases have been seen in bartenders, one in an alcohol dealer and another in a brewer.

### ECZEMA OF THE HANDLERS OF OILS AND GREASES.

A considerable number of cases of eczema are noted in individuals who handle all kinds of irritating oils and greases, carbon, graphite, etc. Twelve machinists, seven fireman, four railroad men, two trolley-men, one saw-sharpener, eleven engineers, one rigger, one car cleaner, two roofers, one sailmaker and three elevator operators were observed with this affection.

### ECZEMA OF HANDLERS OF PASTES.

Certain pastes, particularly that made out of glue, cause an eruption upon the hands and the fingers. Two instances have been noted in individuals who

bind books, pasting the backs together; the outbreak occurred in both patients a few days after starting work and has continued for some months. The pasting of paper boxes together has furnished two other instances and another case was noted in the paster of magazine wrappers.

### GROCERS' ECZEMA.

Ten cases have been noted in individuals employed in grocery stores and it has been practically impossible to place the blame for the eruption on any one portion of the work. The handling of sugar and flour in this trade, however, make one suspicious of these substances.

### ECZEMA FROM PLASTERING, PAPER AND BUILDING TRADES.

These trades produce prolific eruptions on the fingers, the hands and the forearms. Four cases have been observed in plasterers, two in whitewashers, two in paperhangers, one in a worker in a wall-paper coloring room, three in stone masons, one in a cement mixer, one in a builder and three in bricklayers. The lime and the Portland cement and also the mortar used by the eight last individuals were evidently the cause of the outbreak. The lime used in white-washing is a source of great irritation. The sulphide of arsenic and also the aniline dyes are the irritating factor in the wall-papering trade.

### TOBACCO WORKERS' ECZEMA.

Workers in tobacco have an eruption upon the hands and fingers which is often of long duration and which tends to relapse, very probably from the irritating effect of the nicotine. Five cases have been seen in males and four in females.

### FURRIERS' AND HATMAKERS' ECZEMA.

Workers in fur at times exhibit an eruption upon the hands, possibly due to the handling of dyed furs of an inferior grade. The sulphide of arsenic which with lime is used in the curing of fur may also be causal. Two cases have been noted.

The makers of hats, particularly those who have to do with the molding and the dyeing of the same, are very prone to an outbreak, probably because of the more or less constant use of water containing impurities and also the handling of acids. The handling of the hairs of animals is also causal. Several instances have been noted.

### ECZEMA OF THE WORKERS IN METALS AND MINERALS.

Workers in metals and minerals furnish a large number of cases of eczema upon the fingers and hands and at times on the forearms.

Hall has recently written an article on the dermatitis developing in the silver and the electroplating trades. In scratch brushing the goods are cleaned by a revolving brush, on which sour beer drops from a trough above. This liquid is splashed by the revolving brush upon the hands and the forearms of the worker and even upon the face. The beer is collected as it runs off the wheel into a trough below and is returned to the trough above to be used over again. A certain number of scratch-brushers, who are mostly women, suffer from an affection of the hands. The flexure or the dorsal surface is attacked, depending upon which is the most vulnerable part (the hair protecting the arms in some). The type of eruption found is either the papular or the papulo-vesicular. In severe cold weather all of the workers become affected. All de-

degrees of irritation are found; from those whose hands are irritated by the sour beer very soon after using it, to those who acquire the condition probably due to some alteration in the beer. The sour beer used in this work is the dreg from the empty beer barrels returned to the brewery. The sour beer is the irritant that causes the outbreak, particularly when it is used over and over again.

The writer has recently visited a large silver and electroplating plant and found that the use of the dreg of beer had been eliminated in scratch-brushing because of its irritating effect on the skin and a soap-bark preparation had been substituted in the cleaning process.

Hall, in the same article which has just been mentioned, describes an outbreak on the hands and the arms of polishers and burnishers of silver. The factor which causes the irritation in this work is evidently the "rouge" which is employed for burnishing. Rouge apparently consists of "quicksilver," iron and wax, the last to hold it in a mold. Workers speak of "quick-rouge," which means a rouge with a large amount of quicksilver in it. The finest rouge is used for gold polishing and the coarsest for brass and copper burnishing. The coarser the rouge the more apt the worker is to have an eruption. Some of the French polishers use bichromate of potash in their trade which causes not infrequently an outbreak. Crocker has reported cases from this latter source. Potassium cyanide is also used in the cleaning of silver and is extremely irritating to the skin, particularly to the more tender skin of the forearms, unless it is immediately washed off. The squamous and vesicular types of eruption are usually noted in these workers. The outbreak is frequently very persistent and tends to relapse.

A case of eczematous eruption was noted on the hands, by the writer, in an engraver of gold watch cases, apparently due to the use of potassium cyanide in cleaning the same. Two watchmakers were also found to have the outbreak, also a silver polisher, a brass polisher, a worker in a brass foundry, a bronze worker, a copper worker and a silversmith.

The eruption was observed also in an iron turner, a steam fitter, a lead worker, an emery wheel maker, a boiler maker, a tinker, a coal miner, a worker in a coal yard, a false-teeth maker, a wire worker, in a plumber, in two tin-smiths and in two blacksmiths.

#### ECZEMA OF HANDLERS OF DYED MATERIALS.

An outbreak has been observed in five shirt makers, the dyes in the materials handled probably being causal. The aniline dyes in paper flowers have apparently caused the outbreak in two instances. The dye ingredients have also caused an outbreak on the hands of a hosiery maker. A drygoods clerk and an upholsterer have also exhibited an outbreak on the hands.

#### FRUIT HANDLERS' ECZEMA.

The acids contained in the various fruits seem to be the cause of an eruption on the hands. Such an eruption was observed in a fruit dealer, in a girl who worked in a cocoanut factory and in a dried fruit handler.

#### ICE AND ICE-CREAM MAKERS' ECZEMA.

Probably because the skin of the hands and fingers are subjected to such severe cold and are so constantly wet, as well as the irritating effect of the fresh and canned fruit juices and flavors and also the salt, an eruption is more or less frequently found in ice-cream makers.

Ice makers, because of the almost constant wetting to which the feet are

subjected, are prone to have an inflammation on the skin of the feet, ankles and lower legs, as in a case I have recently seen, in which an eczema rubrum was present, the outbreak having lasted for three weeks. There have been three other attacks of a like nature.

#### SOAP MAKERS' ECZEMA.

The irritating effect of soap has been mentioned under the heading of house-workers' eczema. The makers of soap, because of the strong alkalis and acids handled, are prone to an outbreak. One case has been observed in a soap maker and another in a soap wrapper.

#### PACKERS' ECZEMA.

Because of the irritating substances handled in this occupation an eruption is at times observed. Two cases have been seen.

#### FARMERS' AND FLORISTS' ECZEMA.

Farmers and florists, because of their exposure to all kinds of weather and to the irritating substances of plant life, are very subject to an outbreak. The various kinds of vine and plant poisoning which have been mentioned earlier in this paper are particularly apt to produce an eruption in persons of those occupations because contact with plant life is an almost daily occurrence. Two farmers were noted to have an outbreak, also two florists and one worker in a flower store.

Several other trades were found that caused an eruption of an eczematous character at times; one case was noted in a telephone operator, one also in a teacher, a stenographer, a butcher, a brush maker (possibly from a mite in the straw), one scoopman, one pitcher and a hostler. Alderson has seen some interesting cases of this affection in workers in dry bichromate of mercury.

The histological differences between a dermatitis and an eczema have been investigated by numerous observers and investigators. Before the appearance of the epithelial alterations, Leloir was able to detect a dilatation of the vessels in the papillary layer of the corium with serous exudation. The latter, according to Leloir, determined the epithelial alterations. Neisser, on the contrary, thinks that this is very improbable in cases of eczema not produced by external agents. In cases of so-called artificial eczema, where the affection is obviously due to the action of an irritant acting from without, he considers that the epithelium is directly affected by the irritant, while the inflammation may be due partly to the epithelial alteration and partly to the direct action of the irritant on the vessels. According to Bowen, and I believe the majority of dermatologists, artificial dermatitis offers no histological divergences from acute eczema.

The large number of cases mentioned in this paper and the references quoted show the practical impossibility of distinguishing

between dermatitis and eczema of external causation. If the outbreak is caused by certain irritants, such as by plants, we call it dermatitis; if by certain other irritants, eczema. If it be of short duration and of known cause, we call it a dermatitis; if of long duration, an eczema. The clinical appearance may be the same in each, the histopathological picture identical, and yet we place the one under the heading of a dermatitis and the other is classed as an eczema. Is not our attitude inconsistent? Should not we take a firm stand and advance a step forward by classing all cases of known external causation, which have heretofore been classed as eczema, under the heading of dermatitis? Qualify the dermatitis if it is desired by a descriptive adjective, or divide dermatitis into acute or chronic, according to the duration of characteristics of the condition, but have the one name, dermatitis.

There could be no more fitting ending to a paper of this character than to quote the words of and from an editorial written by James Nevins Hyde, in *THE JOURNAL* for 1904, page 30, under the title "The Passing of Eczema":

"Is it not clear that the word 'eczema,' which once meant something, indeed, once meant a great deal to the older writers and observers, has outworn its usefulness? Its history discloses at the onset a floundering in a quagmire of ignorance and an emergence upon only semi-solid ground after much travail of keen observation and writing. There is no 'eczema' in the absence of dermatitis; is there any dermatitis without some of the accepted symptoms of 'eczema'? The doom of the word is probably written. It will survive where it belongs and with no greater repute than attaches to the outworn and the discredited."

#### CONCLUSIONS.

Fully one-quarter of all cases of eczema are of definite external origin. Almost one-sixth of all cases of this affection are caused by the occupation of the individual.

Microorganisms are apparently not the cause of eczema, but probably play a secondary rôle in the affection.

The largest number of cases of the so-called occupation eczemas are seen in the workers in the household and next most frequently in laborers.

Practically every occupation and every irritant may produce an eczema.

The portions of the skin exposed to the irritant determines the site of the outbreak.

The eruption not infrequently extends beyond the irritated areas, at times being noted on distant parts of the cutaneous surface.

The usual type of eruption noted is the vesicular or the squamous.

The eruptions mentioned in this paper have lasted for weeks, months or years, and show a marked tendency to relapse.

It is rather hard to explain the susceptibility of some individuals to certain irritants, while others are not affected, excepting on the theory of a pure idiosyncrasy, an anaphylactic tendency causing sensitization of the skin.

As dermatitis and eczema of external origin have the same clinical and microscopic pictures, they should be classed under the heading of dermatitis.

The writer wishes to express his thanks to Dr. M. B. Hartzell and to Dr. C. N. Davis for the privilege of reporting some of the present cases.

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## DISCUSSION.

DR. ZEISLER said that while he appreciated the honor of being called upon first, yet he also deserved some sympathy, because the subject was one of great difficulty and required much thought. The speaker said that in the discussion of these interesting papers, he would first mention anaphylaxis, which was referred to by Dr. Johnston, and which he was convinced had an important bearing upon this type of eruption. His own experience with this phase of the subject was limited particularly to young children and he recalled one instance of anaphylaxis in a child affected by eczema, in whom the symptoms were invariably aggravated by the ingestion of eggs.

The paper by Dr. Knowles showed evidences of a great deal of labor on a subject which had after all nothing to do with true eczema. The speaker felt like presenting the ætiology of eczema, in a rather paradoxical vein, something

like the following: when we had a case of eczema of which we knew the cause, then it was not eczema; and when we had a case of dermatitis and did *not* know the cause, then it was eczema. Or again, when we had a case of eczema which readily responded to treatment, then it was not eczema, but simply a local dermatitis; and when we had a case of dermatitis which proved obstinate to our therapeutic efforts, then we were really confronted with an eczema. So that after all we were forced to agree with the sentiment voiced by Walker that in eczema we were confronted by a disease regarding whose aetiology we were absolutely ignorant. Again and again, Dr. Zeisler said, he had asked himself what eczema really was. We saw these patients, we went over them as thoroughly as possible, we observed them carefully, we examined the urine, etc., and in spite of all our efforts we were as far away to-day from a recognition of the true nature of eczema as we were many years ago. We knew of eczema occurring in washerwomen and grocers and in the various tradespeople, but in finding the cause of these eruptions we were simply solving the problem of the aetiology of the various forms of dermatitis, which had nothing to do with true eczema.

DR. HARTZELL said that a few years ago, when he had had the pleasure of discussing this subject, he expressed the opinion which he would repeat now that during the past century we had not learned a single fact bearing upon the internal cause of eczema. Dr. Johnston's paper had only served to fix this conviction more firmly in his mind. We did not know the first thing about the internal causes of eczema, while on the other hand we had learned much about the external causes. Every eczema was a dermatitis, but not every dermatitis was an eczema. He did not know how we could draw the distinction between an eczema and an inflammation of the skin that continued for years and years after the irritant that caused it had been withdrawn. We all knew of cases in individuals who worked, for example, in tanneries, dye works, and so on, and who showed all the symptoms that we expected to find in eczema. These symptoms continued not only while the patients were exposed to the particular irritant that caused the eruption, but for months and years after they had given up that occupation. Would we call that an eczema or a dermatitis? In encountering this difficulty, we were apt to invoke the help of the term idiosyncrasy without knowing what we meant by it. Personally, the speaker said, he believed that in these cases, instead of an idiosyncrasy, we had to deal with a sensitization of the skin, which in time might become extremely sensitive to certain irritants. He had observed this in the dermatitis that followed the use of formalin and in the case quoted by Dr. Knowles; the patient, after exposing himself to the drug for two or three years without any ill-effects, now did not dare to enter a room where he would come in contact with the vapor. Formerly, we said that was due to a change in the patient's constitution, but that was not so; his skin had become sensitized.

The speaker said he did not believe that every dermatitis was an eczema—that every inflammation of the skin that resulted from an external irritant was an eczema, but he did believe that many chronic inflammations were just as much eczemas as were those arising from what we called internal causes and about which we knew nothing. If we did not know the cause of this chronic inflammation, why should it be called an eczema, while if we knew it was due to some external irritant, why did we call it a dermatitis? These were very practical questions, because if we went on believing that real eczema was of internal origin, why should we continue drenching our patients with all sorts of nauseous decoctions which had no effect whatever on the disease? How many of us would be willing to treat eczema with internal remedies alone, after we had seen many cases cured by the use of local treatment only?

The speaker said he did not believe that there was any real distinction be-

tween many cases of so-called eczema and many cases of chronic dermatitis. He did not wish to be misunderstood, as he was on a former occasion, of being supposed to deny the possible internal origin of this disease: on the contrary, there were certain cases which he thought were of internal origin, because we could exclude external causes, but what the internal causes were he did not know, and he did not think any one else knew.

DR. JACKSON said that in teaching this subject, he was accustomed to tell his students that eczema was due to an unknown internal cause, plus an external irritant. Most of the so-called trade eczemas were cases of dermatitis. Many eczemas, however, were due to some unknown, internal cause. Take, for example, a patient who had handled a certain irritant for many years without ill-effects, and then woke up one morning with an eczema. There was probably some internal cause for such an outbreak.

The speaker said he had seen cases of what he would term purely nervous eczema. He recalled the case of a woman who had never suffered from eczema. One day she was badly frightened by a burglar and the next morning she had a well-developed eczema. While most of these cases of dermatitis due to external irritants disappeared under local treatment, the patient's general condition should not be neglected and the speaker said he still believed that there was great virtue in the internal treatment of eczema. Our remedies should be given for the purpose of improving the general condition of the patient.

DR. RAVOGLI said he had always insisted upon drawing a sharp line between dermatitis and eczema. He regarded a dermatitis as an acute affection and that eczema began when the dermatitis ceased to be acute. With an eczema, we had an infiltration, or an exudation in the form of papules and vesicles, with a tendency to chronicity, which differed entirely from an acute dermatitis. There was no doubt, he thought, that in these cases we had some internal disturbance that modified the skin and permitted the development of these eruptions. He did not look upon eczema as a truly primary disease and thought that in many cases it was secondary. For example, we had a prurigo; the patient continued to scratch and an eczema developed on the primary eruption. Again, we might have an eczema on a psoriatic base, or one following a gonorrhoeal dermatitis about the vulva from the maceration of the epidermis, and the presence of the purulent secretion. A dermatitis must be separated from an eczema, which was a chronic affection and difficult, at times, to cure.

DR. HOWE said he had been much interested in Dr. Hartzell's remarks in regard to the sensitization of the skin. It recalled to his mind the case of a lad who was in the habit of going in swimming in the summer and then rubbing his body with the leaves of poison-ivy, which apparently had no effect upon him. After discontinuing the practice for a number of years, he repeated it and suffered from a severe dermatitis.

As a contrary experience, Dr. Howe said that formerly, while hunting, he had frequently been poisoned by coming in contact with dogwood and ivy, so much so that he was in constant fear of them, but that in recent years he had apparently become immune to these plants and, with the exception of an occasional mild crop of vesicles, they no longer produced any effect on him.

DR. POLLITZER said that it was impossible to do justice to a subject of such magnitude in the few minutes allowed for discussion. While listening with great interest to Dr. Johnston's very scientific paper, he was struck with his definition of eczema, namely, that it was a disease characterized by erythematous patches which became vesicular. As a matter of fact, while we did call that eczema, that was only a very small part of eczema. The vast majority of cases never became vesicular at any stage, though it was true we could generally make

them so by irritant applications. On the other hand, Dr. Knowles devoted practically the whole of his paper to the presentation of a condition which was not eczema at all and which he said was not eczema when he got through with it. His very thorough presentation of the subject of trade dermatitides was of great interest, but it was not germane to the subject of eczema.

The subject of the discussion, Dr. Pollitzer said, was the aetiology of eczema. Dr. Johnston had discussed a number of conditions which he admitted had nothing to do with eczema, and the speaker said he was very glad he had done so. There were many who believed that the cause of eczema was internal, and Dr. Johnston was evidently one of those who regarded eczema as the effect of some metabolic disturbance. But after eliminating one after another the various forms of metabolic disturbances, after showing that it was not in the urea, the uric acid, the rest nitrogen, that it was not in the phosphorus, nor the calcium, nor the sulphur metabolism, nor, in a word, in any measurable element of metabolism, he had come to the conclusion that the trouble lay in some metabolic disturbance, the nature of which was too delicate for our crude methods of observation. Of course this must be true if we started from the premise that eczema was due to a disorder of metabolism, but it left the original proposition untouched. Personally, Dr. Pollitzer said, he did not think that eczema was due to internal causes, although the latter might play a rôle in its production through the physiological changes in the condition of the soil.

Coming to the external causes of eczema, to which Dr. Hartzell had especially referred, if we granted the possibility that there were various external irritants, chemical and physical, that might produce a condition of the skin which resembled eczema, which indeed could not be differentiated from eczema, and which persisted for months or even years after the patient had been relieved from all possible contact with the cause of the original dermatitis, then we must find some other cause for eczema, and he would like modestly to suggest one that had scarcely been mentioned, namely, the bacteria which were always present on the skin and which set up an eczema after the original irritant had ceased to act.

In regard to the sensitization of the skin to external irritants, there was one difficulty that we must bear in mind. The skin that had been acted on by a chemical agent a long time ago was not the same skin to-day that it was a few weeks or months ago. It was possible that tissue cells, through constant, long-continued contact with an irritant, took on certain properties which they originally lacked, and became altered in their physiological or chemical properties; but on the surface of the skin we were not dealing with the same cells for any length of time. The cells of the epidermis that were exposed a year ago were not the same cells that were present now; we were dealing with entirely different cells; and this fact had to be taken into consideration when we tried to explain such phenomena as Dr. Howe had referred to as due to a sensitization of the skin.

The speaker said that personally he believed that eczema was due to external irritants and that there was no real eczema without bacterial action. He thought the eruption was the result of bacterial action upon a soil specially prepared for the organism in some way at present unknown. In the preparation of the soil he thought it probable that certain internal causes, especially disturbances in the vascular system, played a rôle.

DR. PUSEY said the attitude of dermatologists generally in regard to eczema had never been satisfactory to him, nor had this discussion. There was a common tendency to take the position—it seemed to him to be almost an unconscious pose—that we knew eczema when we saw and knew some things about it, but that there was in addition some unfathomed thing about it that gave it mystery. Malcolm Morris had expressed this view most characteristically in his introduction to the subject of eczema in his work on dermatology. He stated that eczema was clinically indistinguishable from dermatitis and that in its pathological histology

it was also indistinguishable, but at the same time it was not dermatitis. That to Dr. Pusey's mind was a *reductio ad absurdum*. The only way science had of establishing the identity of physical things was by their physical characteristics and if two things were physically identical in all respects they must be, to all who would accept the criteria of the physical sciences, the same. It was academic nonsense to call them different. Morris in elaborating his idea explained that to have an eczema we must have in addition to the local exciting cause some "pathological X," which distinguished eczema from a dermatitis of the same clinical characteristics. This "pathological X"—some lowering of the usual resistance of the tissues to insult—was, of course, a universal factor in disease; what would produce a dermatitis to-day might be borne with impunity to-morrow.

Morris went on to say that as soon as an apparent eczema was found to be of local origin, it was no longer an eczema, but a dermatitis. Such a distinction was about as essential as that between natural and artificial ice.

The speaker said that he had referred to Morris, not because he wished to criticise him in particular, but because his exposition of this view of eczema was a shining example. The works on dermatology usually showed the same difficulty in trying to make a distinction between eczema and dermatitis. They began with the preposition that eczema had peculiarities of its own; in trying to establish these they become hopelessly involved and usually in the end extricated themselves by a footnote to the effect that eczema might be the same as dermatitis. Our difficulties disappeared if we accepted eczema to be what it was in all of its clinical characteristics—a superficial, simple dermatitis such as might be excited by external irritants. And so, the speaker said, he differed entirely from the criticism offered against Dr. Knowles' paper, that his paper was concerned with the aetiology of dermatitis and he would say, on the contrary, that Dr. Knowles had offered us a very useful summary of the local exciting causes of eczema.

As to our difficulties in not being able to say what was the cause of eczema we were no worse off than the pathologists were as regarded the cause of inflammation in general. As soon as pathologists could agree upon a universal cause of inflammation we could agree upon a universal cause of eczema, but so long as tissue reacted to innumerable irritants we would have innumerable causes of the affection that we called by the name eczema.

There were, Dr. Pusey said, many cases included under the conception of eczema which would, in the course of time, be excluded from that condition. There were certainly some forms of eczema that would be found to be just as definite clinical entities as dermatitis herpetiformis. We could not eliminate them from eczema until we knew more about them. In the meantime, the speaker said he would not say that we were in an especially humiliating position by calling them eczema.

DR. GRINDON said that before we began to talk about the aetiology of eczema, we should ask, what is eczema? Eczema was simply a peculiar type of inflammation, due to a wide variety of causes and analogous to catarrh of mucous membranes.

Was there any real difference between dermatitis and eczema? It had been said that if the case recovered in a short time, it was a dermatitis; if not, then it was an eczema. This was given as a pleasantry, but contained a germ of truth. Is not the duration of a disease one of its natural characters? If some cases could be traced to external causes, as in some of the occupational dermatoses, what did that mean? That the eruption was due solely to the external irritant? Not at all, because the fact remained that external irritant would not produce a lesion in everybody, for the reason that everybody's skin was not sensitized to it. One might handle formalin, for example, for a long time before the skin became sensitized. Furthermore, we saw eczema where there was

no recognizable source of external irritation, and where there was no reason to assume that the skin had become sensitized to any particular agent by repeated exposure; for instance, eczema about the face and anus and elsewhere in children up to about the period of dentition. These were supposed to be reflex or neurotic. The speaker believed that such cases showed very clearly that there was an internal cause of eczema and that the internal cause was here of more importance than the external. There was often a coöperation of internal and external causes, when the soil was prepared for the external irritant and then again, cases, as for example in children, in which, if there were an external cause, we could not discover it, whereas there apparently was an internal cause. This was demonstrated when failing to cure them, we referred them to a pediatricist who understood infantile feeding and we saw those children get well. Similar results could also be observed in adults who were referred to an intelligent internist. In some of these adult cases of eczema we had perhaps to deal with a condition of acidosis, with insufficient carbo-hydrate intake, where the fat of the tissues was being used up and there was a formation of butyric and other fatty acids. Dr. Grindon said his faith in that idea was founded on observation. Another illustration of the same sort was furnished by indicanuria. While he knew perfectly well that a healthy person might show an indicanuria, yet he had seen eczema associated with it and by cutting down the proteids, both the indicanuria and the eczema disappeared. He was still old-fashioned enough to believe that there really was a condition distinct from simple dermatitis which we called eczema, which simply meant a catarrhal condition of the skin and which was due chiefly to an internal cause. Often there was an external irritant acting upon a soil prepared by an internal cause, which in turn was the result of a disturbance in metabolism dependent on dietary or other factors.

Dr. MORROW said there was only one point he wished to mention in connection with this subject, and that was the possibility of an eczema starting from a burn. During the past year he had seen two cases of recurrent eczema developing after burns. The latter were trivial in character, the eczema starting immediately afterwards and spreading to different parts of the body.

Dr. RUGGLES said he wished to add to Dr. Knowles' paper one other exciting case of dermatitis connected with the photographic industry. Naturally a large proportion of such cases occurred at Rochester, the home of the kodak factories. The speaker said that he had learned occasionally of cases of platinum poisoning. This dermatitis resembled greatly that caused by metol, *i.e.*, vesicles, occasionally pustules, or a parchment-like skin over the finger-tips which fissured easily. There was also a constitutional form. A kodak employee had told of an acquaintance who began to sneeze in the dark room within half a minute of the introduction of platinum into a hot bath and he went on to develop what greatly resembled hay-fever. It was not a case of auto-suggestion, as he did not know of platinum being used. There had been cases of asthma and decided prostration and illness following the use of platinum.

Dr. SCHALEK said it seemed to him that the unanimous opinion of the Association was that we did not know anything about the ætiology of eczema and that all that was said were mostly probabilities and guesses. We might continue to discuss indeterminably whether the causes of eczema were internal or external, but the fact which was not mentioned remained, that whatever the causative factors were, they were more or less present universally. In spite of this the majority of people escaped eczema, so that the conclusion was forced on us that eczematous individuals must have a special vulnerability of the skin, which unquestionably was in many cases inherited. Dr. Schalek said that he recalled a case of eczema in a woman who gave birth to a child and the child developed the disease also. It was given attention in a hospital for about six

weeks and recovered. As soon as it was returned to the mother a relapse occurred in spite of every possible care. Such cases certainly pointed to a special predilection for this disease.

DR. FOERSTER said that during the past year he had come to the conclusion that eczema was really largely a matter of clinical interpretation. This view was impressed upon him by the experience of one of his patients, a woman, who was traveling around the world. While in Ceylon she developed an extensive inflammation of the skin of the neck and shoulders, and during her travels she consulted a number of leading dermatologists in different cities, and they all informed her that she was suffering from eczema and prescribed various internal and external remedies, changes in her diet, etc. As a matter of fact, her eruption proved to be nothing more than a dermatitis caused by a hair-dye and it promptly disappeared with a discontinuance of the use of the dye.

After referring to the multiplicity of causes, some known and others unknown, that might produce a dermatitis, Dr. Foerster spoke of the primula dermatitis, which he had endeavored to produce on his own skin and repeated applications of the plant, extending over a period of more than one year, were necessary before he could produce the dermatitis at will. This showed the effects of sensitization of the skin, to which Dr. Hartzell and other speakers had referred. In dozens of cases of primula dermatitis, the diagnosis of eczema had been made. He could recall instances where patients with supposed eczema were sent to European spas for treatment when they were really suffering from primrose dermatitis, and the speaker said he was firmly convinced that many cases of so-called eczema were really due to external irritants, regarding the nature of which we were still ignorant.

DR. ALEXANDER S. WOLF, of St. Louis (by invitation), said he was not at all surprised to hear so many and often divergent opinions as to the nature of the disease in question, as the speaker's conception always was that in a number of cases the cutaneous manifestation was a symptom of some other disease, such as diabetes, while in other instances the eruption was due to external irritants. The endeavor to establish a sharp dividing line between dermatitis and eczema was an idle task from the histological point of view and a useless one from the standpoint of therapeutics. Speaking of the therapeutics of eczema, one could not overlook the enormous progress made of late in the treatment of the most obstinate form of eczema of infants due to faulty feeding. Finkelstein, of Berlin, established a new era in this regard and no responsible dermatologist could undertake the treatment of this form of eczema without the coöperation of the pediatricist, unless he was able to familiarize himself thoroughly with the principles of Finkelstein's theory of infantile feeding. The speaker wished to express his agreement with Dr. Hartzell's conception of the sensitization of the skin as an important factor in the origin of eczema.

DR. JOHNSTON said that judging by the discussion, the paper he presented on this subject had apparently only succeeded in befogging his hearers. At least two of the speakers had put words in his mouth that he did not say at all. In writing this paper, he had taken a particular type of eczema whose diagnosis could not be disputed and described it so that there would be no reason for caviling with it. Everything that was done in the way of preparation in the search for the cause was done in just such cases as the one described. No external factor played any part in the cases used for investigation. Personally, the speaker said, he was just as firmly convinced that there were external excitants of eczema as the rest of the speakers. At the same time, under the highest power of the microscope and with the most careful technique, no trace of pathological change could be found in sections of so-called sensitized skin after the eczema had disappeared, although such a skin might still be sensitive

to formalin or other irritant and the obvious deduction from this was that the change, whatever it was, was chemical.

The speaker said that Dr. Pollitzer apparently found it impossible to get away from the bacterial origin of eczema and while the evidence was all against the possibility of such a theory, life was too short to wrestle with it. The speaker said he had not made the statement that the cause of eczema would be found in the nitrogen residue; on the contrary, he had stated the direct opposite, for all the compounds separated to date were found in health. What he did say was that there was a possibility that the error might lie in proteolysis taking place in the intestinal wall and the resultant split products might so sensitize the skin in the true sense that it would readily react to irritants from without.

Replying to Dr. Grindon, the speaker said that in every one of these selected cases of eczema the urine was examined over and over again under varying conditions of diet and no trace had been found, under any circumstances, of a disturbance in the carbohydrate metabolism, nor was there any evidence of disturbance in the fat metabolism; no acetone bodies nor lipemia. If acidosis had been present, it would have been impossible for acetone to have escaped notice in some one of the cases.

Dr. KNOWLES, replying to Dr. Pollitzer, said that in one of his conclusions he stated that microorganisms were apparently not the cause of eczema, but probably played a secondary rôle in the affection. The cases that were included in his paper, although of the acute type clinically, were not of short duration: they lasted not for a few days or a week, but for weeks and months and, therefore, clinically, on account of their duration and the histological findings, they might be classed as cases of acute eczemas. The eruptions were not only vesicular, but also pustular and squamous, and included all the types that were found in eczema.

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## SOCIETY TRANSACTIONS.

### PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular January meeting of the Philadelphia Dermatological Society was held on December 28, 1911; the members of the American Dermatological Association were present as the guests of the local society. DR. JAY F. SCHAMBERG, *President*.

**Linear Nævus (Nævus Unius Lateris).** Presented by DR. STELWAGON.

The patient, fourteen years of age, was presented with an eruption which had its beginning a few months after birth. The lesions had been progressive since their onset and had developed rapidly during the last two years. The eruption consisted of wart-like growths, extending from just below the right ear to the middle of the clavicle and from the tip of the latter almost to the elbow. The papillomatous growths were unilateral, yellowish-brown in color, non-inflammatory, extended in long lines and were painless. Some of the members were inclined to classify it as



a case of keratosis follicularis. It gave the appearance on the arm as if follicular plugs were present yet the condition was quite soft. Hypothyroidism was observed distinctly in the patient.

Dr. G. H. Fox thought that in this case there were two affections, a congenital nævus and an acquired follicular keratosis occurring in groups. Such groups of plugged follicles he had repeatedly seen, more often upon the chest and the wrists than upon the extensor aspect of the arms and thigh, where the keratosis is so common.

Dr. RAVOGLI said that the disposition of these nævi recalled the ramification of the nerves underneath. In several cases they looked so much like zoster that they were called nævus zosteriformis. It seemed that a morbid condition of the ganglion had a great deal to do with the production of nævus in all of its forms, from the pigmented nævus to nævus verrucosus or vascularis. According to his observation there was reason to believe that extended nævi were related to syphilis, probably in the third generation and had to be referred to a dystrophic condition from alteration of the trophic nerves. In several cases of extended nævus vascularis and telangiectasia, the use of electrolysis, associated with intermittent doses of potassium iodide had given satisfactory results.

### **Epidermolysis Bullosa.** Presented by Dr. SCHAMBERG.

The patient, a boy of fourteen, had been afflicted since the first year of life. During the past four or five years, the eruptive activity had been much less pronounced. The finger-nails were destroyed, the skin was atrophic over the arms and legs, and there were circumscribed areas of excoriations and crusts representing the sites of former lesions.

Dr. RAVOGLI mentioned that the formation of bullæ in this affection depended a great deal upon an altered condition of the nervous system. In some cases this irritation was found to be present from early childhood, probably from an hereditary aptitude of the skin to react to every little injury or irritation. In his practice a young man was suffering with an eruption of bullæ wherever he knocked his arms or legs. Any little injury from his work was followed by the formation of bullæ, which were very troublesome. He believed that there was some likeness between epidermolysis bullosa and urticaria. In urticaria any little scratch gave place to the wheal and so in epidermolysis bullosa any little injury was followed by the formation of bullæ.

### **Leprosy (Two Cases).** Presented by Dr. SCHAMBERG.

One of these cases had been under the care of Dr. Chas. N. Davis. A thirty-six-year-old Russian woman came to this country about six years ago. It was alleged that the eruption had been present only about six months, but this was doubtless erroneous. She presented an extensive eruption of large nodules on the face, particularly on the lips and the chin. These had recently undergone rapid ulceration, and were now almost on a level with the surrounding skin. The patient had received three weekly doses of 1 c.c. of lepra vaccine prepared by Dr. Duvall of New Orleans.

The second case of leprosy was discovered in a Russian woman of

fifty-five years, a resident of this country for twenty years. The eruption was first observed a year ago. She presented typical nodules on the ears and a pigmented macular eruption on the trunk. This woman had also received three doses of lepra vaccine. No change was observable at the time of presentation.

Dr. G. H. Fox expressed his approval of the fact that cases of this disease were not regarded by the New York Department of Health as a serious menace to the community. Cases there had been permitted to go unmolested for many years past and no harm had resulted therefrom. Even a leper had some rights which a board of health was bound to respect.

**Serpiginous Ulceration of the Leg.** Presented by Dr. STELWAGON.

The patient was a male of twenty-four years who gave a good family history and who was apparently in robust health. The patient had gonorrhœa eight years ago and four years later the lesion for which he was presented to the Society made its appearance. Superficial nodules first appeared, which broke down and the ulceration thus spread, healing in the areas first attacked. The site attacked by the disease was about eighteen inches long and eight to ten inches wide; in addition there were some outlying patches, segmented and ulcerated, and consisting of thin scar tissue below, occupying about one-quarter of the area, with a few nodules or tubercles within its surface. The lesion was an extensive, superficial, moderately suppurating ulcer, with the spreading edges showing here and there nodulation. There was only slight infiltration. The border of the ulcer was for the greater part sharply cut and in places undermined. The whole aspect gave the impression of a superficial, tubercular, ulcerative syphiloderm. Partial healing would at times occur under mild antiseptic applications. Antisyphilitic treatment had been of no avail. The case came under Dr. Stelwagon's care two years ago, having previously been seen by Dr. Davis, at which time, in addition to the above ulcerated and searred area, he presented mucous patches and all the other evidences of a generalized outbreak of syphilis. Since that time his wife had become infected with syphilis. Under the usual treatment the active symptoms had entirely disappeared but the thigh condition remained practically stationary. Active improvement was noted for a time under injections of cocodylate of sodium. The patient's father objected to the use of salvarsan. The bacteriological examination and the cultures threw no light on the case; the histological appearance pointed to a syphilitic process, but it was not conclusive. A Wassermann test made in June, 1911, was positive.

Dr. POLLITZER said he could not see how the ulceration on the leg could be made to conform with a diagnosis of syphilis. The admitted syphilitic infection happened some years after the beginning of the ulcerative process, and if the latter were syphilitic we should have had to assume a second infection in a man with an old and active syphilis, an assumption which he regarded as quite out of the question. Furthermore, the assumed old syphilis in this young man must

have been hereditary or at least acquired in early childhood; an assumption which was contradicted by the particularly healthy appearance of the well developed patient. Neither tuberculosis nor blastomycosis were capable of producing such lesions as the patient presented. For his part he would regard the case as one of that little known group of cases of chronic ulceration in the inguinal region due to unknown causes, possibly a mixed infection, an example of which he presented before the American Dermatological Association a few years ago. He would recommend radical surgical measures by way of treatment, with excision followed by skin grafting.

**Morphœa.** Presented by DR. SCHAMBERG.

A girl, seven years of age, presented extensive band-like, cicatricial, yellowish-white streaks and patches on the arms and the shoulders. The bands and patches were dense and thickened and bound down the subjacent tissues. About one wrist there was an extensive pigmented sclerodermatous area. The previous history suggested no causative factor. Dr. Schamberg, in commenting on the genesis of such cases, referred to a patient with morphœa whom he had seen in Detroit, in whom one side of the face and the opposite leg and arm were extensively involved. Such a distribution certainly suggested a central nerve lesion.

DR. RAVOGLI said that in his experience it was the result of an atrophic condition of the connective tissues of the superficial layers of the derma, with re-absorption of the pigment. Before showing the white spots, the patches were of a rose-red color and especially at the periphery the edges were somewhat elevated, showing that there existed an active process, the result of which was the thickening of the tissues and the loss of pigment. There was no doubt that the affection was of trophoneurotic origin and very likely from alterations in the vasomotor system. He believed that some cases of extended leucoderma, morphœa and scleroderma had to be considered as pathological entities having the same origin. In one case of morphœa and in one case of scleroderma under his observation, the Wassermann test was positive. Lues was not entirely out of the question, and indeed the administration of potassium iodide had given the best results.

**Keratosi of the Tongue in a Luetic Subject.** Presented by DR. PFAHLER.

The patient exhibited was a woman, aged fifty-two, who developed a tumor of the left side of the tongue at the posterior portion, two years ago. She had been under Dr. Schamberg's care at the Polyclinic Hospital for lues, which disappeared under treatment, leaving only the lesion on the tongue, which lesion she was advised to have excised. A Wassermann test was positive. While waiting for the report of the Wassermann test she had three X-ray treatments on the enlarged submaxillary glands and the lesion on the tongue was reduced one-half in size. It had grown smaller since. She was given the protiodide of mercury, one-quarter grain, three times daily.

DR. SCHAMBERG stated that this patient was a short time since under his care. At that time she had a flat, superficial, tubercular syphilide near the mouth, and

filmy, whitish patches on the tongue. In addition, there was on the tongue a circumscribed, elevated and firm leukokeratotic patch. Under mixed treatment and one or two gray oil injections, the facial eruption and the filmy patches disappeared, but the circumscribed leukokeratosis was unchanged. The speaker believed there was a beginning cancerous change in the patch and sent her to a surgeon.

### **Psoriasis and Arsenical Keratoses.**      Presented by DR. DAVIS.

A male of thirty years came to the skin dispensary of the Pennsylvania Hospital, with a typical and more or less generalized eruption of psoriasis. The patient had had outbreaks of this character during the last fifteen years. He had taken various preparations of arsenic for the last ten years. There was present a typical arsenical keratosis on the palms and the soles. According to the patient this condition had been present for the last five years.

DR. RAVOGLI said that arsenical keratosis was very rarely seen, only once had he had occasion to treat a lady with small patches of keratosis of the palms and the soles; some of these became epitheliomatous. The condition was very painful. The patient had taken Fowler's solution constantly for over five years.

### **Blastomycosis (?) of the Lip.**      Presented by DR. DAVIS.

A male of twenty-seven years came to the skin dispensary of the Pennsylvania Hospital on April 24, 1911, with a new growth of the lower lip of seven months' duration. The growth was of a dime in size and occupied the left portion of the lower lip, the border of the affected area being considerably raised and undermined and the central portion quite depressed. The surface of the lesion was papillomatous and the border exhibited numerous miliary abscesses. A Wassermann test was negative and smears and cultures exhibited apparently blastomycetes, according to the pathologist, Dr. Paul A. Lewis' report. The progress of the condition had been extremely rapid and because of carelessness on the patient's part, in following active treatment, the condition had involved the entire lower lip.

DR. POLLITZER said that the case seemed to him on clinical grounds, unquestionably an epithelioma and that an examination under the microscope of the section shown established this diagnosis beyond question. As to treatment he would emphatically discountenance anything except a radical surgical operation with extirpation of all the glands under the floor of the mouth. At least one of these had seemed already cancerous.

DR. RAVOGLI said that the clinical appearance of the ulcerated surface resembled an epithelioma more than a blastomycosis. Apparently, however, a round double capsuled body was present in the section, which was pathognomonic of blastomycosis.

DR. HARTZELL said that the case was probably epithelioma and the double capsuled body mentioned by Dr. Ravogli was, in his opinion, a cross section of a hair follicle.

**Bromide Eruption.** Presented by DR. KNOWLES.

A girl, five years of age, was exhibited with a typical outbreak of a few days' duration. The lesions were noted upon the face and the right leg and were from split-pea to one-quarter dollar in size. Some of the areas showed considerable elevation and the characteristic yellowish-white, cheesy appearance. The child had been taking two and one-half grains of sodium bromide, four times daily, for a week or more. A herpes of the cheeks and the lips was also present. Six attacks of herpes simplex had occurred during the last fourteen months.

DR. RAVOGLI said he had observed a child of three years of age, who developed an eruption covering one-half of the head and nearly the whole half of the face, as a thick vegetating dermatitis. A physician was using the X-ray and the eruption was so masked that it was nearly impossible to make any diagnosis. When the child was undressed patches of bromoderma were found on the buttocks and the legs. It was discovered that the child had been taking the bromide of potassium for almost six months because of spasms. The child recovered in a short time on stopping the medication.

DR. HOWARD FOX referred to a case that he had recently observed, in which the disease had been caused by the drug contained in the mother's milk. The patient was a nursing baby, four months old, who had not received any medication by the mouth. The mother had, however, been given mixed bromides on account of nervousness, for a period of one month before the eruption appeared on the child. The eruption was situated upon the face, the hands, the buttocks and thighs and was absolutely characteristic in appearance.

**Arsenical Pigmentation of the Body.** Presented by DR. SCHAMBERG.

This patient, a man of seventy years, was presented before the American Dermatological Association at its meeting in Philadelphia, two years ago. He showed at that time a deep brownish pigmentation over the greater part of the trunk, the discoloration exhibiting strikingly sharp borders. Several members of the society at that time regarded the case as vitiligo. The patient had been given, by several physicians, prescriptions containing arsenic for the relief of general itching, and he had taken four hundred minims of Fowler's solution in a month. Iodide of potassium in small doses, prescribed by Dr. Schamberg, was taken for several months. The patient gradually improved and was then completely free of pigmentation.

DR. POLLITZER said that he recalled the appearance of the case at its former presentation a few years ago and no one then questioned the diagnosis of arsenical pigmentation. He must say, however, that at the present time he should not hesitate to pronounce the case one of vitiligo.

DR. G. H. FOX said that the patient may have suffered from arsenical pigmentation but the photograph with its diffused and circumscribed patches would not suggest this. On the other hand, it was almost a duplicate of photographs he had taken of tinea versicolor. The rapid disappearance of the eruption moreover would tend to support the latter diagnosis.

DR. SCHAMBERG said that in regard to the diagnosis of tinea versicolor suggested by the photographs, that no thought of this was entertained by himself

or any members of the society when the patient was presented two years ago. The patient had had no local treatment.

**Lupus Vulgaris (Extensive).** Presented by DRs. STELWAGON and GASKILL.

A female, aged thirty-seven years, of Pennsylvania birth, gave an interesting family history; her mother's father and sister died of tuberculosis of the lungs, her father of pneumonia, her mother of cancer of the stomach, and a sister of cerebral abscess. One brother was living and well. The patient had the usual diseases of childhood, and also pleurisy nine years ago. She had a scar upon her cheek which resulted from the operative removal of a patch of disease similar to that which she had upon the thighs. The lesion upon the cheek began during her first year of life, shortly after vaccination. When she was seven years of age, following a slight superficial abrasion of the leg, she said she had a series of small abscesses in this region. Shortly after this the present small pea-sized, papular and nodular, red eruption began, showing itself about the knee. Since that time similar lesions had appeared, involving almost the whole of one leg, extending up the lower back and also involving the upper part of the other leg; the lesions were patchy and confluent. At frequent intervals she had swellings of one leg accompanied by high fever, pain, redness and chills. These attacks would last several days. During these attacks there seemed to be an exacerbation of the patches and nodules as well as a slight increase in the size of the leg. She had had in the past five or six years, at different times, a deep-seated abscess appear, one on the thigh, another recently in the lower abdominal wall and one in the axilla. These attacks were accompanied by more or less febrile action and exacerbation in the cutaneous process. This case was exhibited before the Boston Dermatological Society by Dr. J. T. Bowen (*Journal of Cutaneous Diseases*, 1905, p. 128). According to the record there made, it would seem as if there had been at that time a decided difference in the measurement of the two legs; a difference that still existed, but was apparently not quite so great as formerly. The general appearance of the eruption about the legs and thighs was seemingly that of unmistakable lupus vulgaris. The appearance of one leg suggested somewhat by its increased size a possibly associated elephantiasis, but it was wholly lacking in the other characteristics of this malady; it may have been that this was due solely to the tubercular involvement. One of the exhibitors (Dr. Gaskill) had found tubercle bacilli in the involved tissues.

**Lichen Planus with Annular Lesions of the Mucous Membranes.**  
Presented by DR. KNOWLES.

A male of twenty-one years presented an outbreak of four months' duration, exhibiting a more or less generalized distribution, exclusive of

the face, the palms and the soles. The forearms were the chief areas of attack. The lesions were absolutely typical of the disease, pinhead, split-pea and dime in size. A considerable number of papules were grouped in rings. Characteristic papules were noted on the mucous membranes of the lips and annular lesions were observed on the mucous membranes of the cheeks.

**Lupus Vulgaris Cured with the X-Rays.** Presented by DR. SCHAMBERG.

A woman, aged thirty years, had had an extensive lupus vulgaris, in infiltrated patches covering the greater part of the face. She had had about two hundred X-ray exposures in the course of two years and was cured of the affection. The tip of the nose and part of the alæ were lost. The scarring was soft but some telangiectases were present. The patient later developed pulmonary tuberculosis. She was in fair health at the time of presentation. Recently a small lupus patch had developed in the septum nasi and had produced a small perforation.

**Lupus Vulgaris.** Presented by DRs. STELWAGON and GASKILL.

A female of forty-three years noted the appearance of the present eruption twenty-nine years ago. There was exhibited one large irregular patch on the left side, extending from one-half inch below the eye and one inch from the nose and the mouth downward to the clavicle and involving the entire ear and one inch below it. The center of this large patch presented a smooth, yellowish-white scar and the entire edge was outlined with typical "apply-jelly" tubercles. There was no question of the diagnosis of lupus vulgaris, but the case was shown on account of an ulceration under the left ear; this was irregular in outline, about three-quarters of an inch at its greatest diameter, with undermined edges, a smooth base and a more or less waxy border. By some of the members present, it was looked upon as an epithelioma. (Two months later this ulceration had entirely healed over under a mild treatment of ichthyol and zinc oxide ointment.)

**Recurrent Cancer of the Breast Treated by the X-Rays (Two Cases).**  
Presented by DR. PFAHLER.

A woman of thirty-seven years was referred by Dr. John B. Deaver, July 14, 1911, with carcinoma of the breast of more than three years' duration. The glands in the supraclavicular region and in the axilla were enlarged and the condition was considered inoperable. Ulceration was noted and metastatic involvement had increased when she came under Dr. Pfahler's care. The patient was given daily exposures to the Roentgen ray for three months, when a dermatitis developed. Each exposure lasted for twenty minutes, the tube being twelve inches distant.

Benoist 6, and the rays were filtered through leather. The rays had set up a dermatitis on two occasions. The disease had practically disappeared.

A woman of thirty-seven years was referred by Dr. M. P. Warmuth for Roentgen treatment for a recurrent and metastatic carcinoma. The entire left breast was amputated October 24, 1910, and this was followed by a recurrence. Another operation was performed five months later, again a recurrence and metastases were observed. Metastatic nodules were removed from the axilla and supraclavicular region four months after the last operation. Dr. Pfahler gave her forty-seven treatments with the X-rays, from June 23, 1911, to August 29, 1911. No evidence of disease was present when shown. The treatments were given through a leather filter, 20 milliamperes at 12 inches and Benoist 6.

#### **Multiple Cystic Epithelioma.** Presented by DR. SCHAMBERG.

The patient, a man aged forty-five, had had for almost twenty years, several hundreds of cystic growths appearing from time to time on the face. Dr. Schamberg avoided the qualifying term "benign," for many of these had been large, had ulcerated and had destroyed considerable tissue, as was evidenced by the scarring present. One almond-sized tumor almost ulcerated through the lower eyelid. This was removed and the area skin grafted. New lesions were constantly appearing and were destroyed by a pointed Paquelin cantery. A microphotograph presented showed the cystic character of the lesions; a peculiar alveolar arrangement of the epithelial cells was seen.

#### **Psoriasis of a Seborrhœic Type.** Presented by DRs. STELWAGON and GASKILL.

A female, aged nineteen years, had had the present pruritic eruption for three months. The outbreak extended from the breasts to half way between the groin and the knee, in one solid patch. The surface of the involved area was very inflammatory and somewhat scaly. Several isolated lesions were observed on the back, from one to three inches in diameter. The same condition was noted on the arms; the knees and the elbows were free. The scalp was almost entirely covered with a profuse scaly eruption on a slightly inflammatory base. These lesions were all rather sharply defined but beyond the edge were primary lesions consisting of small round papules, slightly raised and scaly, and absolutely dry.

#### **Case for Diagnosis.** Presented by DR. SCHAMBERG.

A druggist, aged thirty-six, presented a curious eruption consisting of five or six plaques. In August, 1911, a patch twenty-five millimeters in diameter appeared upon the right arm. According to the patient this was at first "grayish-white in color, as if it had been burned with car-



bolie acid." Quickly following this, there developed in a similar manner an oval patch about forty millimeters in the long diameter on the right side of the back, and several smaller patches on the left buttock and the right leg. At the time of presentation the patch on the back was of a ham-colored tint, slightly elevated and somewhat infiltrated. On the right buttock, the patch was dark-brown in color and presented a lichenified surface. There was no subjective disturbance.

**Hypertrichosis Treated with the Roentgen Rays.** Presented by DR. PFAHLER.

A single woman was referred to Dr. Pfahler by Dr. W. C. Batroff on April 21, 1911. She had been troubled for six or seven years with an excessive growth of hair of the beard and the mustache areas. She had used the various depilatories. Eight X-ray treatments were given one month apart. Only certain portions of the face were treated at each visit and resistant patches had had repeated doses. The treatment resulted in loss of hair with no visible changes in the skin.

**Ringed Keloid in a White Woman.** Presented by DR. HARTZELL.

A woman of thirty-one years came to the skin dispensary of the University of Pennsylvania Hospital with two distinct cutaneous conditions. There was a generalized papulo-squamous eruption present of a few weeks' duration, mucons patches in the mouth, glandular enlargement, etc. Two typical annular keloids were also present on the right side of the lower back. The latter fibrous lesions had been present for some months and were caused by the use of whisky and an ordinary glass tumbler in cupping.

DR. KNOWLES referred to a keloidal vaccination scar he had recently seen in a young white girl. This scar had been removed by another physician, in an extensive incision, a keloid fully four inches in length and one inch in breadth developing. All of the stitch holes were likewise keloidal.

**Squamous Syphilide of the Palm.** Presented by DR. SCHAMBERG.

A woman, aged fifty, had a unilateral sealy eruption of the right palm, which for a long time presented the appearance of an ordinary squamous eczema. Treatment for this condition was unavailing. Latterly, the development of a well-defined border led to the suspicion of syphilis, and a Wassermann test was made. The reaction was reported as a weak positive.

*(To be continued).*

REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York.

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DERMATOLOGISCHE WOCHENSCHRIFT.

(Oct. 12, 1912, lv, No. 41).

Abstracted by FRED WISE, M.D.

**Further Observations upon the Ultimate Fate of Lepra Bacilli Voided in the Fæces.** C. BOECK, p. 1267.

In 1909 and 1910 the author published a series of observations on the occurrence of large numbers of lepra bacilli in the fæcal matter of leprosy patients and discussed the fate of these bacilli after leaving their human host. These organisms find their way into the intestines from foci located upon ulcerated lesions of the mouth, pharynx and larynx of the afflicted individual. He showed that after a lapse of six months following the voidance of fæces containing these bacilli, they appeared to be as numerous and as easily stained as those found in freshly voided fæces. The great majority of the organisms stained blue with Unna's thymen-victoria-blue-safranin method, while a small minority of them stained yellow—proof that the large majority were living bacilli. Further examination of the fæces voided in October, 1909, revealed the fact that after a lapse of two-and-a-half years, there had been no diminution either in the relative numbers of the bacilli or in their ability to take the stain easily. During this period the fæcal matter from which these examinations were made was kept in a large room of ordinary temperature and was allowed to dry. Examination of the dried fæces showed practically the same results as regards the number and staining qualities of the organisms as those obtained in the fresh fæces over two years ago. This discovery naturally brings up the important question of the propagation of leprosy, especially in the tropical countries with their warm, moist climates, through the agency of bacilli-harboring fæces; the same may be a potent factor in the spread of the disease in any country in which poor hygienic conditions exist and in which the disinfection of the

excrementa is not practised. It is natural to assume that food and water become contaminated with these viable organisms in the lepra infected regions of the earth. Boeck believes that enormous numbers of bacilli nest themselves in the tonsillar crypts of leprosy patients, from there finding their way readily into the intestinal canal. He does not believe that the disease can be transmitted from the nasal secretions and mucous membranes, as is commonly thought to be the case.

**Tasselated Hair, Thysanothrix.** F. FRANKE, p. 1269.

While percussing the lungs of a male patient the writer noticed on the back a small dark patch which appeared at first sight to be an aggregation of closely set comedones. Closer examination revealed the fact that the dark spots were composed of fine bristles of hair, of abnormal shape, size and structure. The bristles composing the little brush or tassel of hair varied in thickness, were from three to five mm. in length, yellowish-gray in color, and had the consistency of an old, hardened comedo. The distal end of the little brush was free, while the proximal end of the bristle was thickened. Microscopical examination showed each bristle to be an individual hair, not the result of the splitting up of a normal, ordinary hair. There was little or no pigment and no central canal; each bristle possessed a root and some showed a distinct root-sheath; the layers of Henle and Huxley could not be distinguished. This anomaly of hair-growth has never before been described. Three excellent micro-photographs are shown in the text, depicting the condition quite clearly.

(*Ibidem*, Oct. 19, 1912, lv, No. 42).

**Further Contributions Concerning Purpura Annularis Teleangiectodes.** BRANDWEINER, p. 1291.

Majocchi first described this dermatosis in 1898. In the three cases which Brandweiner published in 1906, he found that the main points in which they differed from Majocchi's five cases lay in the fact that he found no atrophy and no achromia in the end-stages of the disease. He also found that the ringed conformation of the plaques was not a constant phenomenon, but that the lesions often appeared as irregular and elongated patches. Clinically and histologically, however, his cases seemed to be identical with those of Majocchi. In this contribution the author describes two additional cases of this rare disease, a short description of which follows.

The disease begins on the extremities as small, dark-red patches, which, on closer examination, are seen to be composed of aggregations of pin-point to pin-head sized, dark-red spots, which do not disappear or change in size under pressure. After persisting as such for a time, they develop into annular and striated plaques, having a pale-brown centre with a peripheral ring of dark-red, bluish or reddish-brown spots, some of which may also be seen in the interior of the plaques. After a lapse of months, the lesions may disappear entirely, leaving no trace behind, although recurrences are apt to take place. In one of the author's cases the lesions appeared on the oral mucous membrane. There are no subjective symptoms throughout the disease. Histologically, the lesions are composed of the smallest capillaries and pre-capillary ectasia, accompanied by slight hæmorrhages; some of the dilated blood vessels contain a few round cells; here and there are seen isolated spindle-shaped elements, which probably represent hypertrophied adventitious tissue. The disease may appear in either sex and at any age, but is most common in the young. As to its ætiology, it is probably a vasomotor trophic disturbance.

Three micro-photographs are appended in the text.

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(*Ibidem*, Oct. 26, 1912, lv, No. 43).

**A Case of Right-sided Castration in an 18 Year Old Man; Hypertrophy of the Left Mammary Gland (Gynæcomastia Unilateralis Sinistra).** SELENEW, p. 1323.

(*Ibidem*, Nov. 9, 1912, lv, No. 45).

**Concerning the Glandula Caudalis in Cavia Cobaya.** SPRINZ, p. 1372.

In 1910 Prinz described a glandular body which he had discovered existed in the skin at the caudal end of the spine of guinea-pigs, both male and female. The gland is elongated and oval in shape, covered with short hairs, usually of a dark color and coated with a fatty, crumbling secretion. It measures about three by six mm. in size; the hairs of the back are seen to converge toward the gland; microscopically, it is seen that the hairs of the back surround the edge of the gland, the surface of the gland being covered with closely set follicles, while the interior shows a great preponderance of sebaceous glands over the pilary structures.

Prinz examined a number of birds and mammals for the presence of a gland of this type at the caudal extremity and found that it existed in a large variety of animals. The gland structures are of three types; purely acinous types, mixed acinous and tubular types and purely tubular types. The caudal gland of *Cavia cobaya* is similar in structure to the Meibomian gland of the human being, which is regarded as a modified hair-gland. The structure is in all probability an accessory to the sexual apparatus of the animal.

The author made a thorough histological study of the gland in both the fœtus and the adult.

(*Ibidem*, Nov. 16, 1912, lv, No. 46.)

**The Vaccine Treatment of Gonorrhœa.** FÖECKLER, p. 1395.

### DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Sept. 26, 1912, xxxviii, No. 39).

Abstracted by CLARENCE ALLEN BAER, M.D.

**Concerning the Hæmolytic-Inhibitory Properties in Luetic Sera and the Possibility of their Use for a Serodiagnosis of Syphilis.** METHODI POPOFF, p. 1333.

Because of various observations, Popoff tried the hæmolytic strength of active positive sera toward the blood corpuscles of guinea-pigs. He discovered that almost all these sera were hæmolytic-inhibitory to guinea-pigs' blood. He then experimented to see if this property could be used in the sero-diagnosis of syphilis. The method pursued was as follows: Human serum not over two days old was used. Washed guinea-pig corpuscles, diluted 1 to 5, were employed. Three test tubes were used for every serum—.3cc., .2cc., .1cc. serum being used respectively, while every tube contained 8-9 cc. salt solution and .1 cc. guinea-pig blood. After the mixtures had been made, the tubes were incubated at 37° C. for one hour. After this period of time luetic sera will show a complete inhibition of hæmolysis or a slight hæmolysis only. After two hours outside the incubator the results are again compared.

Popoff tested 600 sera in this way and compared them to the Wassermann reactions on the same sera. 75% agreed with the results of the Wassermann, 25% disagreed. At times, however, the results agreed more closely to those of

the Wassermann—once in 20 sera there was 100% agreement and at another time among 21 sera, 91% resulted similarly to the Wassermann.

How can these results be explained? In 161 normal sera, the author found hæmolysis, except in two which were doubtful. In luetic sera, the amboceptor remains unchanged, but the complement changes. A very strong luetic serum contains no complement. Lipoids are produced in the blood of luetics and these lipoids unite with the complement and bind it. In acute syphilis there are many lipoids in the blood and all the complement is bound and therefore no hæmolysis occurs; while in later stages of the disease and during treatment the lipoids are reduced and free complement is present in the serum, resulting in partial hæmolysis.

(*Ibidem*, Oct. 24, 1912, xxxviii, No. 43).

**Experiences with the Serodiagnosis of Syphilis.** H. RITZ and H. SACHS, p. 2009.

The authors consider the so-called "paradox" sera. They state that in spite of their vast material and oft-repeated tests with the same serum, they are unfamiliar with paradox sera in their own experiences. They claim this to be due to their method of procedure. They invariably work with three different antigens, remove their incubated tubes at the proper time and decide their reactions immediately upon removing the tubes from the incubator. They are certain that the strength of their hæmolytic system cannot be responsible for their failure to find any "paradox sera." A weakening of the amboceptor was not followed by serious differences. If only half the quantity of complement mixture was used, then the resulting reactions were not clean cut. They admit, however, that it might be possible to reduce the complement strength if other antigens were used. The authors think, however, that by carefully readjusting and improving their technic they will be able to obtain a greater number of positive reactions in undoubted lues.

#### ARCHIV FÜR KINDERHEILKUNDE.

(Aug., 1912, lxxxv, No. 45).

Abstracted by HARVEY P. TOWLE, M.D.

**Hospital Measles and the Causes of Death after Measles.** WLADIMIROFF, p. 346.

The popular belief that measles is not a disease to be feared, Wladimiroff confirms by the results of his investigations. His conclusions may be summarized to the effect that the better the hygienic conditions the less will be the mortality; the poorer the home conditions the greater the mortality. Wladimiroff is supported by Huebner's experience of fifteen years, the first half of which included practice among the very poor, the second among the well to do. The mortality statistics of the first half were 10.3% (among the poor) and of the second 3.3% (among the better classes).

Wladimiroff discusses very seriously the tremendous increase in the mortality among the hospital patients, which was so great as to render measles comparable in its seriousness to scarlet fever and diphtheria. Figures taken from the Wladimiroff Children's Clinic show that the deaths from measles were three times as many among hospital patients as in the homes of the poor and six times greater than the deaths among the well to do. The writer gives a table showing the mortality of the three diseases for a number of years. The most striking figures are those for 1896 and 1904. In 1896 the measles mortality was 27.1%, scarlet fever 28.8%, diphtheria 19.4%. In 1904 the percentage of deaths was, for measles 20.1%, scarlet fever 15.9%, diphtheria 17.7%. Wladimiroff's con-

clusions are that it is better not to take measles patients to the hospital or, if taken, they must be placed in a ward absolutely isolated from scarlet fever and diphtheria cases.

Analyzing the causes of death after measles, Wladimiroff found that the autopsy records showed the signs were in general those of acute infection. In one case he found a condition of paralysis of the vagus and phrenic nerves, a common post-diphtherial occurrence but excessively rare, if not unique, in measles.

(*Ibidem*, Aug., 1912, lxxxv, No. 46).

**The Elberfeld Measles Epidemic of 1830.** PAGENSTECHER, p. 350.

This article consists of an unpublished manuscript written by Pagenstecher's grandfather. The latter wrote out his experiences in the great epidemic of measles which in 1830 swept up the Rhine valley from Holland. The writer possessed unusual keenness of observation and powers of deduction. Especial interest attaches to his story because he seems to have anticipated several more modern views. For example, the author calls attention to the diagnostic importance of certain manifestations on the oral mucous membranes and the conjunctivæ, immediately preceding the outbreak of the eruption, which are to-day given similar consideration. He says the tongue becomes covered with a thin, slimy, white film through which there project, particularly at the tip, papillæ of a lively red color. Similar red spots were seen to occur upon the gums and cheeks, disappearing within a day or two after the appearance of the eruption. This eruption on the gums and cheeks suggests, in a way, the so-called Koplik spots of our time.

The observations in regard to the incidence of the disease are also interesting. Beginning in January, the epidemic reached its height in March and declined slowly until July, when it disappeared. According to the writer, the characteristics manifested by the different cases varied according to the cycle of the disease period in which they occurred. The first cycle extended from January first to the middle of February. The symptoms during this period were chiefly catarrhal. Therefore the observer compares this cycle to the stage of infection in the disease. The second cycle, extending from the middle of February to the time of the equinox in March, was the most prolific in cases, the type of disease symptoms was the most intense and the marked tendency to pneumo-cardial and cerebral complications most pronounced. This period corresponds to the eruptive stage of measles. In the third cycle, from the time of the equinox to the end of April, nervous manifestations were the dominant symptoms. This period therefore he calls the stage of desquamation. The fourth and last cycle, from the first of May to the end of the epidemic in July, was characterized by a decline in the severity of the symptoms and a return to the original catarrhal manifestations.

The mortality of the epidemic was considerable and reached its height during the second cycle, the period of the equinox and of the severest cases.

Part of the manuscript is given over to a detailed and critical description of the systemic and eruptive features of the disease, almost as they developed with each passing hour.

The treatment which the writer recommended was dietetic, varying in kind and extent according to the severity of the individual case. The popular treatment by the administration of hot drinks is condemned without qualification as being at once dangerous and worse than ineffective.

In conclusion he states, "Whether or no the rise and fall of the intensity of the epidemic should find its explanation in the weather conditions . . . or be based on unknown planetary laws, it is true nevertheless that certain external factors influenced the disease." Among these external contributing factors were

included such conditions as unhygienic housing, the crowding and overheating induced by the unusual severity of the winter, bad nursing and the debilitated state.

GIORNALE ITALIANO DELLE MALATTIE VENEREE E DELLA PELLE.

(Sept. 23, 1912, liii, No. 4).

Abstracted by A. RAVOGIA, M.D.

**Experimental Researches on the Local and General Alterations Following the Use of Salvarsan.** L. TOMMASI, p. 426.

This article deals with the local effects of salvarsan, demonstrated by test-tube experiments. It was shown that egg-albumin was soon coagulated and precipitated by acid salvarsan, but when neutralized with soda the albumin was not so intensely affected. The necrotising action of salvarsan on living tissues is due to its reducing power. The alkaline solution has a much greater necrotising effect on the muscular tissues, due more to its alkalinity than to the action of arsenobenzol. The muscular tissue is not much affected by neutral solutions.

The author injected salvarsan into the thighs of several rabbits, employing acid, alkaline and neutral solutions, to observe the local effects. Five days after injection, a hard nodule was formed, which showed in the centre a yellowish, amorphous, powdery substance, salvarsan,—surrounded by a dark area consisting of necrotic muscular fibres. Grayish-white areas, formed of dried muscular fibres, with small punctiform hæmorrhages, were also noted.

Tommasi believes that the absorption of salvarsan takes place by phagocytosis, despite its destructive action on the leucocytes. Absorption occurs slowly. So long as salvarsan persists in the tissues, the necrotic area remains. The necrotic action of the salvarsan is due to the caustic effect of the arsenobenzol through its reducing power and also to the acidity or the alkalinity of the injected solution.

A clinical case is referred to, showing the deep and persistent action of the salvarsan; four months after an injection of a neutral solution into the gluteal region, an abscess formed, which when opened and drained, resulted in a hæmorrhage which necessitated the ligation of the hypogastric artery. With reference to the action of salvarsan on the nerves, this gluteal injection caused a paralysis of the peroneal nerve, the patient dragging the tip of the great toe when walking. This is not due to the toxic action of the salvarsan on the nerve fibres, but rather to a neuritis and perineuritis from the drug, injected in the vicinity of the sciatic nerve.

Two rabbits injected with salvarsan died. Autopsy showed nephritis and severe congestion of the principal organs. Chemical analysis showed the changes to be due to arsenic. The author warns against the repeated injections with salvarsan, bearing in mind the danger of accumulation of the drug and the degeneration of the tissues from arsenical poisoning.

**Paraurethral Canals; Paraurethral Nodules and Paraurethritis.** FERDINANDO, p. 440.

**A Case of Blastomycosis.** M. COPELLI, p. 467.

A woman presented a tumor, consisting of an aggregation of six round nodules, on the back of the tongue. Some of the submaxillary glands were involved. The tests for syphilis and tuberculosis were negative. An excised piece of the tumor revealed the presence of small spores, cultures of which resulted in large, budding spores. These were injected into guinea-pigs, resulting in the formation of granular nodules under the skin and in the peritoneum. The patient presented blastomycetic lesions on both feet. Examination revealed blasto-

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myces within the affected tissues. A photograph and three microphotographs are appended.

### **Histology and Bacteriology of Anatomical Tubercle.** C. GHEZZI, p. 493.

A man employed in the pathological department presented, on the back of the left hand, a painless red nodule. Five months later it had increased in size and was excised. Histological examination showed the Malpighian layer to be hypertrophied, the derma studded with numerous small infiltrating cells. In the centre was a tiny abscess filled with leucocytes and detritus. Around this was a dense infiltration of small cells and some giant cells with signs of cheesy degeneration. Elastic fibres were barely perceptible, the connective tissue fibres were considerably altered, while the entire area was surrounded by plasma cells. The presence of the tubercle bacillus could not be demonstrated, even by the method of Much. Nine days after inoculation of a guinea-pig, a thickened, infiltrated patch was formed at the site of the inoculation, two mm. in size; after attaining a certain size, this became atrophic and disappeared. Six months after the inoculation, the animal died and the pleura, liver and kidneys were studded with grayish tubercles, in which Koch bacilli were demonstrated. Two other similar cases are described, occurring on the hands of surgeons. These three cases had a common origin, namely a tubercular one; but they showed minor differences which were due, either to the difference in virulence of the bacilli, or to the resisting power of the tissues. Secondary staphylococcic infection plays a considerable rôle in these cases. It is not easy to demonstrate the tubercle bacillus in these sections. Abrasions on the hands are presumably the portals of entry of the tubercle bacillus.

### **Leptous Nodule of the Cornea. A Histological Study.** PASINI, p. 511.

The author calls attention to the rather infrequent occurrence of leprous nodules in this location. He gives the history of a typical advanced case of lepra of twenty years' standing. During the last three months the patient presented a diffused redness of the bulbar conjunctiva, with marked opacity of the external segment of the cornea, affecting both eyes; a leprous nodule gradually formed, preventing closure of the lids. The nodules were removed and examined.

The normal tissues of the cornea were found mingled with leprous cells. The epithelium of the cornea shows neither increase nor diminution near the leprous process, nor does it show signs of necrosis. The cells lose their normal shape on account of the intercellular œdema. Hansen bacilli could be demonstrated abundantly in the intercellular spaces as well as in the protoplasm of the cells. In the tissues of the cornea were found groups of small foci of typical leprous cells in agglomerated masses. The bacilli were quite abundant and were spread over the lacunar system of the cornea, affecting chiefly the corneal cells.

The author believes the leprous nodules are formed in the superficial layers of the cornea, newly formed blood vessels derived from those of the bulbar conjunctiva playing a part in the process.

## CLINICA DERMOSIFILOPATICA DELLA R. UNIVERSITÀ DI ROMA.

(April, 1912, xxx, No. 2).

Abstracted by A. RAVOGLI, M.D.

### **Concerning Gonorrhœal Eruptions.** CAMPANA, p. 59.

The author discusses the eruptions of the eczematous and hyperkeratotic types resulting from gonorrhœa. In this case the gonococcus was not demonstrated in the skin lesions. The patient suffered from a severe attack of urethritis with



marked joint involvement. The hands presented a papular eruption, with here and there vesicles and scales. The eruption remained stationary for several days, to light up during an attack of fever. The soles of the feet also were affected. The eruption proved to be of gonorrhœal origin. In another case, a hyperkeratotic eruption appeared on the mucous membrane of the glans penis and somewhat resembled an incipient epithelioma. This soon healed when the sulcus balano-preputialis was properly protected from the urethral discharge. Both these cases resulted from local contagion, on parts open to irritation and rubbing. It is possible that the gonococcus and other pyogenic organisms enter the abrasions of the skin; or it may be that acid or alkaline chemical products find an entrance into the tissues; or true proteolytic alkaloids may be formed.

Campana placed small pieces of condylomata acuminata into the balano-preputial sulcus of a healthy person and thereby set up an inflammation in this region, with the formation of small condylomatous growths. Gonococci and other organisms were demonstrated in these growths. Unquestionably, these condylomata are due to the gonorrhœal infection.

The author states that these gonorrhœal dermatoses are due to direct infection by contact with the germ of gonorrhœa, their appearance being favored by other conditions which may be present at the time, such as syphilis, tuberculosis, stasis, etc. In the tropics, frambœsia often shows an admixture of gonorrhœal vegetations with spirochætæ, tubercle and lapra bacilli, producing the severest conditions as a consequence. Since Campana does not believe that the gonorrhœal eruption is spread by the circulation, but that it is the result of direct local infection, the adherence to strict rules of cleanliness in cases of urethritis will necessarily prevent the dermatosis.

**Clinical and Therapeutic Observations on Lupus.** CAMPANA, p. 67.

The author presents 25 photographs of the various stages of lupus. He claims brilliant results from the use of tuberculin injections.

## BRITISH JOURNAL OF CHILDREN'S DISEASES.

(Aug., 1912, ix, No. 104).

Abstracted by HARVEY P. TOWLE, M.D.

**Herpes Zoster by Contagion.** SOLON VERAS, p. 360.

Veras reports the case of a little girl, aged 6 years, who presented an eruption upon the left side of the abdomen, consisting of little red patches marked with papules. In only one group were there any vesicles. Temperature 103.3 degrees. The zoster ran its course for a day and gradually disappeared. Temperature became normal on the fifth day. Six days after the onset in the first case, the patient's younger sister, three years old, developed a similar eruption in the same situation. For three days preceding she had shown symptoms of slight fever, nasal discharge and cough. In the second case, the eruption was less marked than in the first and, according to the writer, presented three or four vesicles only.

(*Ibidem*, Sept., 1912, ix, No. 105).

**Idiocy and Congenital Syphilis.** H. R. DEAN, p. 385.

Although the view that congenital syphilis is an important cause of idiocy has been advanced by many writers, the number of recorded cases is very small. Dean has studied the question from the point of view of the serum test and has obtained rather interesting results. From 330 idiots tested he obtained a

positive serum test in 51, or 15.4%. Of these 51 positive cases 7 showed definite signs, and three or four signs which could not be diagnosed with certainty. Two cases with definite signs gave a definite reaction. The list of symptoms occurring in the positive cases, which the writer implies were due to syphilitic infection, is rather interesting, including as it does epileptiform convulsions, chorea, strabismus, nystagmus, right-sided hemiplegia, spastic diplegia, deaf-mutism and aphasia. The greatest number of positive results was obtained in patients under ten years. From that period onward the number of positive reactions decreased rapidly. In the first decade the percentage of positive results was 21.27%. In patients from 16 to 20 years old positive results were obtained in only 6.06%. Of the 51 positive cases, only seven showed conclusive evidence of congenital syphilis from a clinical standpoint. In the remaining 44 cases, the diagnosis rested entirely upon the evidence furnished by the serum test. Dean is inclined to believe that the actual percentage of positive results falls far short of the number actually infected and that we shall have to recognize syphilis as a causative factor of idiocy in a very considerable percentage of cases.

#### PEDIATRICS.

(Oct., 1912, xxiv, No. 10).

Abstracted by HARVEY P. TOWLE, M.D.

#### **The Teeth in Hereditary Syphilis. Non-Syphilitic Teeth. True Dental Stigmata of Syphilis.** Editorial, p. 596.

An editorial divided into three parts under the above headings.

The apparent ignorance of medical men has led the editors to describe briefly the appearance of the teeth in non-syphilitic diseases, and then the different manifestations of hereditary syphilis.

#### AMERICAN JOURNAL OF DISEASES OF CHILDREN.

(Oct., 1912, x, No. 10).

Abstracted by HARVEY P. TOWLE, M.D.

#### **Infantile Eczema and Indigestion; Preliminary Report, with Illustrative Cases.** HARVEY PARKER TOWLE and FRITZ B. TALBOT, p. 219.

This paper details the attempt of the writers to study a very limited portion of the problem of the ætiologic relationship of the digestion to infantile eczema. They employ the recently developed method of stool analysis to determine the effectiveness of the digestive processes in regard to certain individual, chemical food groups. The report is based upon the study of a comparatively few cases occurring in infants under two years of age and represents the search of the writers for ætiological clues.

Their tentative conclusions are:

1. The acutely inflammatory form of eruption in infantile eczema presents so many features which are constant in occurrence and in form that its claim for consideration as a definite, fixed type of disease deserves further attention.
2. For directly opposite reasons, the less intensely inflammatory form of eruption cannot lay claim to such consideration.
3. The stool findings show that the indigestion of fats and the indigestion of carbohydrates are the only types which can be demonstrated to occur with any regularity and definiteness in association with infantile eczema.

4. The occurrence of the acute exudative type of eczematous inflammation of the skin in such frequent association with an indigestion of fats and sugar indicates that the process in the skin and the process in the digestive tract probably have some ætiologic relationship.

5. Contrariwise, the fact that the majority of infants, presenting the same symptoms of indigestion as described above, do not likewise present a cutaneous reaction points to the inevitable conclusion that some underlying condition, probably systemic, which the eczematous infants possess, is lacking in the non-eczematous individuals.

6. Therefore, indigestion must occupy an intermediate position, if any, in the mechanism of the production of eczema.

The reporters have confined their clinical study of the ætiology of infantile eczema to the limited field of the digestive disturbances in infants. Therefore no attempt has been made to draw definite conclusions from their data.

The data gathered and here presented have been analyzed from the two different points of view of the skin and of the digestion. The first step was to determine whether there really existed a definite complex of cutaneous symptoms which was associated sufficiently often with disturbed digestive processes to justify the hypothesis of an actual relationship between them. This question was answered in the affirmative.

It was then necessary to solve the question: Do the facts concerning digestion confirm the affirmative conclusions of the cutaneous data? The answer was sought in information derived from the recently developed method of studying the digestive process by means of an analysis of the stools. If, in a given case, the composition and the daily amount of the food are known, it is now possible to determine with considerable accuracy even by microscopic inspection which particular food substance is at fault, whether it is fatty or proteid or carbohydrate. By a qualitative and quantitative chemical analysis combined with microscopic inspection, not only the type but the degree of the intolerance can be estimated. Through this information it was found that there was one type of maldigestion which was encountered much more frequently than the others.

Passing from these preliminary factors of the problem to a study of the types of cutaneous disturbances, on the one hand, and the disturbances of digestion on the other, it was demonstrated that the exudative form of eczema was most frequently found in connection with digestive disturbances. On the opposite side it was found that an intolerance of fats was most often associated with skin manifestations.

Finally it was shown that the exudative form of cutaneous reaction was the type most frequently accompanied by a fat indigestion and *vice versa*, that their association was so much more constant that no other combination of types was in any degree comparable.

Here the investigation ended for the present, leaving the determination of the significance of the association of the acute exudative, inflammatory type of infantile eczema with a digestive intolerance of fats, for future study.

#### JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(July 13, 1912, lix, No. 2).

Abstracted by FRANK E. SIMPSON, M.D.

#### Cutaneous Reactions. ERNEST DWIGHT CHIPMAN, p. 106.

Chipman believes that the great weakness of modern dermatology lies in our ignorance of the causes of skin diseases. He follows Brocq in dividing dermatoses into two large groups: 1. Those due to known external causes—such as traumatisms and microbic agents. 2. Those cutaneous reactions arising from

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within. This difference is illustrated by scabies and urticaria—the first being included in group 1, and the second in group 2. With Brocq, the author lays stress on the two following general principles: 1. The same cause may provoke different reactions. 2. The same eruption may be provoked by diverse causes.

Dermatoses arising from within, Brocq divides on an aetiological basis into four groups. 1. Dermatoneuroses and reflex dermatoses. 2. Nutritional troubles. 3. Tumors. 4. A group difficult to classify—"cutaneous reactions par excellence."

The frequent coexistence of dermatoses is noted. For certain reactions consequent upon an antecedent disease, the term "infectious eczematoid dermatitis" has been suggested by Engman and Fordyce. Workers in dermatology will benefit by the work of the pathologist and chemist, especially along the lines of internal secretion and anaphylaxis.

### **The Ætiology and Treatment of Superfluous Hair.** H. C. BAUM, p. 104.

Baum describes his technique for the removal of superfluous hair. The area is first mopped with absolute alcohol. This cleans the surface and obtunds sensation. The needle is first introduced into the hair follicle and the current passed sufficiently to mark its site. The hair is then epilated and the needle is returned into the follicle and the papilla is destroyed. By this method less destruction of tissue and consequently less scarring ensue. A weak current is used— $\frac{1}{2}$  to 1 milliampere. In general, toxic influences are the cause of hypertrichosis. Indican in the urine bears a relationship. Overworked spinster school teachers furnish the largest quota of the author's cases.

(*Ibidem*, July 20, 1912. No. 3).

### **Xanthoma Tuberosum Multiplex Vulgaris Mistaken for Myomatosis Cutis Disseminata.** RICHARD L. SUTTON, p. 178.

Sutton refers to the published cases of myomatosis cutis disseminata and gives a complete bibliography. The clinical and histological features of this disease are succinctly given. The possible confusion with xanthoma tuberosum multiplex is illustrated by the report of three cases in which the clinical features led to the diagnosis of myomatosis but the histological examination revealed the cases to be xanthoma tuberosum multiplex.

(*Ibidem*, July 27, 1912. No. 4).

### **Benign Epithelioma; A Study of Transitional Morphology.** M. L. HEIDENGSFELD, p. 256.

Heidengsfeld has studied the pathologic histology of five cases of benign cystic epithelioma, one case of morphaea-like epithelioma and one case of carcinoma epitheliale cicatrisans, with the hope of elucidating the genesis of the epithelial malignant proliferation. This it was found impossible to determine in a single instance and the genesis of all forms of epithelioma is still unsettled. Interesting photographs and microphotographs are appended with descriptive histological details.

(*Ibidem*, Aug. 3, 1912. No. 5).

### **Parakeratosis Ostracea (Scutularis).** LUDWIG WEISS, p. 343.

Weiss reports a case resembling in many respects rupiform psoriasis but sufficiently unlike it to be clearly separated in the author's belief. On the trunk, upper arms and thighs were hollow, oyster-shell-like formations, composed of scales held together apparently by curled up hairs. The scalp, forearms and

legs were clear. The lesions differed from those of psoriasis in several particulars. Moisture or oozing was noted underneath the lesions; thorn-like projections, present on the under surface of the lesions, extended into the follicular openings. Other minor differences are noted. The results of a careful histological examination are recorded. Cuts of the disease and microphotographs are appended.

(*Ibidem*, Aug. 10, 1912. No. 6).

**Psoriasis Familialis.** FRANK CROZER KNOWLES, p. 415.

Knowles has instituted an inquiry into the frequency of psoriasis familialis. He concludes that psoriasis is not hereditary and that only rarely is more than one case found in a family. Only six instances have been discovered out of some hundreds of cases examined.

**The Relation of Aortitis to Syphilis and the Importance of its Recognition.**

CUMMER and DEXTER, p. 419.

Basing their conclusions on the findings at autopsies, X-ray examinations of the chest and the Wassermann reaction, the authors comment upon the frequency of lesions of the aorta or aortic valve in syphilis. Nearly three-fourths of all lesions of the aorta and aortic valve are luetic. Syphilitic aortitis is usually a late manifestation of lues and follows a long period of latency. It is occasionally associated with cerebro-spinal lues. Pain in the chest and dyspnoea are frequent symptoms. Prompt mercurial treatment will arrest the progress of the disease.

**Lactic Acid and Colonic Irrigation in the Treatment of Psoriasis.** J. M. WINFIELD, p. 416.

Winfield believes psoriasis is probably of metabolic origin. Led by this view, forty cases were subjected to treatment by colonic irrigations and the administration of 10 to 30 drops of dilute lactic acid before meals. In twenty-three the attack was cured; sixteen were improved. The average stay in the hospital was six weeks. Control cases treated in the usual way improved much less quickly.

**A New Simple Apparatus for the Intravenous Administration of Salvarsan with Saline Solution Preceding and Following.** O. LEGRAND SUGGETT, p. 440.

Suggett uses a glass funnel connected with a bayonet needle by a rubber tube thirty-six inches long for intravenous injection of salvarsan. Salt solution and the salvarsan solution are each prepared in Florence flasks. The salt solution is first injected into the vein and is followed by the salvarsan solution. Economy of space and simplicity are the advantages claimed for the apparatus. A cut is appended.

**A Broader View of Pityriasis Rosea.** GEORGE HENRY FOX, p. 493.

(Aug. 17, 1912. No. 7.)

In a classical article, Fox protests against the accepted description of pityriasis rosea of Gibert as being incomplete and in some respects inaccurate. The roseate tint is by no means a striking feature in the usual cases. The size of the lesions is not always that of a finger-nail and indeed confluent and extensive marginate patches are sometimes seen. On the other hand punctate or guttate

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lesions are common. Strange to say, Gibert failed to mention the circinate lesions described by later writers. Fox believes that pityriasis rosea of the axilla and groin has a clinical kinship with Hebra's eczema marginatum. In opposition to the view held by Gibert and now generally accepted, the author holds that a chronic as well as an acute form of pityriasis rosea exists. Instead of lasting approximately eight weeks pityriasis rosea may persist for months and Hallopeau has recorded a case lasting four years. In conclusion, Fox makes a plea for a closer observation of this disease in the hope that it may be more sharply defined than it is at present.

**The Bacterial Ætiology of Acne Vulgaris.** MARCUS HAASE, p. 504.

In an exhaustive article, Haase reviews the work done on the bacteria found in acne vulgaris. Beginning with Unna, who described the acne bacillus in 1893, the various bacilli and cocci found by many different workers are described. The author believes that the majority of the different investigators have been observing simply different phases of the same organism and that this organism is the *Bacillus acnes* of Unna, Gilchrist and Engman. Further work is needed to confirm or refute the ætiologic significance of the bacillus and to investigate further the rôle played by Unna's and Schwenter-Trachsler's "milk white coccus." The author touches upon the use of vaccines in acne vulgaris. In his own work these have been useful, but brilliant results have not been achieved.

**Erythromelagia.** GEORGE A. MOLEEN, p. 532.

Moleen reports the case of a man, aged seventy, who suffered for about fourteen years with erythromelagia. The feet and the thumb and forefinger of both hands were affected. Owing to the severity of the pains when the feet were allowed to hang down, he had been bedridden for two years. The nervous system showed no demonstrable changes. Suprarenal extract in five grain doses was administered for a period of about one and one-half years with apparent complete recovery. Just prior to the cessation of symptoms there appeared a small patch of dry gangrene on the right big toe which yielded to hot foot baths and lowering of the extremities. The gangrene was thought to be due to overaction of the suprarenal extract. Moleen concludes that erythromelagia is seen in association with cord and peripheral nerve disease but occasionally in a pure form as in the present case.

**Diet and Hygiene in Diseases of the Skin.** L. DUNCAN BULKLEY, p. 535.

Bulkley contributes an article which elaborates his well known views as to the effect of diet in skin diseases. The influence of certain articles of diet in producing acute erythema, urticaria, and acne is commented upon. Diet may influence the skin in one of four ways: 1. Reflex cutaneous eruptions. 2. Toxic action. 3. Perhaps directly on the skin tissue as do certain drugs. 4. Certain necessary elements may be absent from the diet as in scorbutus.

In certain acute inflammatory diseases a diet consisting of rice, bread and butter and water is advised for about four days. In psoriasis a strict vegetarian diet is advised. A general hygienic mode of life is also strongly urged.

(*Ibidem*, Aug. 24, 1912, No. 8.)

**Keratodermie Blennorrhagique, with Report of a Case.** FRANK E. SIMPSON, p. 607.

Simpson reports a case of keratodermie blennorrhagique. A widely distributed eruption of keratotic crusts, in a patient bedridden with gonorrhœal

rheumatism, was the main feature. A complete bibliography is given. The present case seems to be the first reported in America and the twenty-first recorded in the literature. A photograph of the case and a micro-photograph of a histologic section are appended.

**Disappearance of Angioneurotic Oedema After Appendectomy.** C. P. OBERNDORF, p. 623.

Oberndorf reports the case of a man, aged thirty-seven, who had suffered since the age of eight from chilblains. At the age of about thirty he developed angioneurotic oedema. Three years later he developed recurrent appendicitis which was operated upon, with removal of the appendix. The chilblains and the angioneurotic oedema entirely disappeared following the operation and two years later no recurrence had taken place. In addition, the hair of the scalp which had been falling out grew in with renewed vigor.

**Observations on Keratosis Follicularis, With Report of Five Cases in the Same Family.** WILLIAM B. TRIMBLE, p. 604.

Trimble reports five cases of Darier's disease. The family predilection of this disease is illustrated by its occurrence in a mother, three children and one grandchild. The cases are carefully described clinically and histologically. The severe keratosis of the soles was a marked feature. Animal inoculation experiments, undertaken with the theory of possible contagion in mind, were all negative. The contents of a number of lesions were forcibly expressed for culture experiments and two apparently different bacilli were isolated. Further work is now being done with these organisms. Photographs of the disease and a micro-photograph of a histological section are appended.

**The Injurious Effects of the X-Ray as a Therapeutic Agent.** A. RAVOGLI, p. 600.

Ravogli urges caution in the use of X-rays. While recognizing their great beneficent power they may do great harm. Two cases are reported in which harmful results were produced prior to their coming under the author's observation. The first case was that of a woman, aged twenty-five, afflicted with lupus erythematosus, who had received forty or fifty X-ray treatments. In addition to an atrophic, telangiectatic skin, small epitheliomata had developed. In the second case, a woman, aged forty, had suffered for twenty years from lupus vulgaris. Here also persistent X-ray treatment had resulted in a large epithelioma, the size of a dollar.

## MEDICAL RECORD.

(July 20, 1912, lxxxii, No. 3.)

Abstracted by FRANK E. SIMPSON, M.D.

**The De Keating-Hart Method of Thermo-radiotherapy.** BAINBRIDGE, p. 96.

This paper is an exposition of the principles which de Keating-Hart believes he has discovered with respect to the temperature conditions of tissues exposed to X-rays. An effort is made to cool the overlying skin and raise the temperature of diseased tissues during or before the X-ray applications. It is claimed that X-rays have a more intense action upon warmed cells than upon cold cells. Several illustrated cases are reported.

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**A Report of Twelve Cases of Mental Disease Treated with Salvarsan, with Special Reference to Blood-Pressure During Injection.** CLYDE R. MCKINNISS, p. 100.

McKinniss reports with great detail the results of twelve cases of mental disease injected intravenously with salvarsan. In the author's hands the intravenous technique has not been difficult. No marked change in blood pressure has been noted even when as much as 195 c.c. were injected. The author doubts if paresis will be improved by salvarsan and sees no advantage over mercury in its use in the treatment of syphilis.

(*Ibidem*, July 27, 1912, No. 4.)

**A Preliminary Report on Neosalvarsan with Particular Reference to its Employment as an Intramuscular Injection.** A. L. WOLBARST, p. 145.

Wolbarst has made some experiments with the view of finding the best method of intramuscular injection of neosalvarsan. Solutions in distilled water and suspensions in iodipin and in glycerin were tried but were more or less painful. Finally a suspension of 0.9 gm. in 4 c.c. of c.p. glycerin to which was added a few drops of a one per cent. solution of Beta eucain resulted in an almost clear solution. This was injected into the buttocks—one c.c. in each of four sites—and was found to be almost painless in the eleven patients to whom it was given.

(*Ibidem*, Aug. 10, 1912, No. 6.)

**A Case of Henoch's Purpura Treated with Human Blood Serum; Recovery.** S. J. WILSON, p. 249.

Wilson reports the case of a boy, aged nine, suffering from Henoch's purpura who received four subcutaneous injections of serum derived from the blood of the father. Recovery ensued.

(*Ibidem*, Aug. 17, 1912, No. 7.)

**Bullous Dermatitis Following Vaccination, with a Report of a Case.** J. L. KIRBY-SMITH, p. 290.

Kirby-Smith reports the case of a boy, aged nine, who developed, ten days after successful vaccination, clear "water blisters" near the vaccination pustule. A few days later other regions were invaded. When the report was made the lesions had been present eighteen months with short intervals of freedom. The vesicles and bullæ were grouped herpetiformly and severe itching was present. At first dermatitis herpetiformis was diagnosed, but later observations led the author to regard the eruption as acute pemphigus. The eruption seemed to be controlled best by bi-weekly injections of 2 grains of sodium cocodylate. Later circumcision was performed and was thought to benefit the disease, as the patient had been free of the eruption for five weeks when the report was made. Photographs of the case are appended.

(*Ibidem*, August 24, 1912, No. 8.)

**On the Clinical Recognition of Syphilitics.** WILLIAM W. GRAVES, p. 323.

Graves believes that the clinical recognition of syphilis is becoming more difficult because the surface manifestations are less pronounced than in former years. This is due to gradual syphilization of the race. Our methods of study are faulty in that we frequently exclude the disease in the absence of a definite



history of initial sore and other lesions and in failing to consider the whole individual and his family in connection with a possible infection. The author lays stress upon what he calls a "Syndrome Syphilitica" because it is common to syphilis and is discernible during the periods of tolerance of the virus. This syndrome consists of (a) phenomena of a general nature. Among these are the so-called syphilitic pallor without anamia and, in addition, certain pigmentary markings about the neck, face, and other parts of the body. The collar of Venus (a pigmented band about the neck) and the retiform pigmentary syphilide are the most noteworthy pigmentary markings. (b) Signs pertaining to the cardiovascular system. Arterio-sclerosis in those under forty is mentioned. The conjunctival and episcleral vessels constantly show characteristic naked eye changes. (c) The nervous system shows various abnormalities. Among these are mentioned certain changes in the pupils, in sensation and in the reflexes. A combination of the above mentioned criteria will enable the clinical recognition of so-called "latent syphilis."

(*Ibidem*, Aug. 31, 1912, No. 5.)

**The Effect of Specific Treatment on the Cerebro-spinal Fluid.** W. F. LORENZ, p. 185.

Lorenz has investigated the changes produced by antisyphilitic treatment in the globulin content, the lymphocyte count and the Wassermann reaction of the cerebro-spinal fluid. Nine cases of general paralysis and three cases of Huntington's chorea were treated with salvarsan and sodium cacodylate. Both drugs were administered intravenously. Interesting tables are appended showing the results. Data are given which indicate: 1. That both drugs are eliminated very rapidly. The urine shows the presence of arsenic within half an hour or more after the exhibition of either drug. In from twenty-eight to fifty-seven hours only slight traces remain. It is concluded that both drugs disappear from the circulation within three hours after the administration.

2. The lymphocytes are decreased and the excess of globulin in the cerebro-spinal fluid is rendered less marked.

3. Sodium cacodylate may be given intravenously or intramuscularly in doses of one gram.

4. Three cases of Huntington's chorea gave a positive Wassermann reaction.

5. No conclusions are reached as to the effect of the treatment on the Wassermann reaction in the present series of cases.

## NEW YORK MEDICAL JOURNAL.

(June 29, 1912, xcv, No. 26.)

Abstracted by FRANK E. SIMPSON, M.D.

**Alopecia Areata; its Causative Factors and Therapy.** PAUL E. BECHET, p. 1361.

Bechet believes the cause of alopecia areata is a matter of conjecture. The contagious variety of alopecia areata is not a true alopecia areata but due to an unknown bacillus. True alopecia areata is a trophoneurosis. In support of this view may be noted the white hair in the previously bald patches and its association with another neurotic disturbance such as leucoderma. Grief, fright, and other nervous shocks have sometimes seemed to cause the disease. Eye strain has been advanced as a factor. The contagious variety of alopecia areata differs somewhat from the accepted type in the character of the lesions. Two epidemics have been reported in this country by Bowen and Putnam. The views of Sabouraud who believes alopecia areata is due to his microbacillus are

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noted. In the treatment, resorcin, cantharides, capsicum, and carbolic acid are of service. Eye strain is to be corrected and the general health improved.

**Neosalvarsan.** A. G. RYTINA, p. 1357.

Neosalvarsan has the following advantages over salvarsan: 1. High solubility. 2. Neutral reaction. 3. Low toxicity. 4. Equal effectiveness. 5. Reaction symptoms, *e.g.*, diarrhoea and vomiting are absent.

The chemistry, toxicology, method of preparation for injection and the technique are given. Neosalvarsan is dissolved in 5 to 10 c.c. of water and half is given in each gluteal or lumbar region. Four injections of 0.9 gramme neosalvarsan at weekly intervals are given. The pain following the injection is said to last only several hours and then gradually subsides. The pain can be lessened by the previous injection of novocain or alypin solution. The indications, contra-indications and preliminary examinations are the same as for salvarsan.

**The Effect of Salvarsan on the Eye.** ROBERT G. REESE, p. 1356.

Reese believes that salvarsan is an indispensable adjuvant in the treatment of ocular lues. It should however be combined with mercury and iodine. Its action is more rapid than that of mercury, but it cannot replace it. The intravenous method is advised for quick action and the comfort of the patient. The only contra-indication in ocular lues is the presence of simple, spinal, non-inflammatory atrophy of the optic nerve.

(*Ibidem*, July 13, 1912, xcvi, No. 2.)

**Roentgen Therapy in Acne.** MULFORD K. FISHER, p. 70.

Fisher reports the results of the treatment with X-rays of twenty-one cases of acne. Of these, fourteen were cured, five were improved, and three had recurrences after the face was clear. The technique of X-ray exposure as used by the author is given. Nothing new is incorporated.

(*Ibidem*, July 13, 1912, xcvi, No. 2.)

**The Direct Treatment of Syphilitic Diseases of the Central Nervous System.**

HOMER F. SWIFT and ARTHUR W. M. ELLIS, p. 53.

The authors state that because of the peculiar anatomical conditions in syphilitic meningo-arteritis the treatment by ordinary means is difficult. There is little if any excretion of curative agents into the spinal fluid. In such diseases as epidemic cerebro-spinal meningitis, pneumococcal meningitis, etc., it is necessary to introduce the specific curative agent directly into the subarachnoid space to obtain curative results. Doubtless the same process may be necessary in luetic meningitis. The blood of treated syphilitics has curative powers. The milk of a syphilitic mother who had received salvarsan has a marked curative effect on her syphilitic child. Other similar observations have been made. It is difficult to say whether the beneficial effects have resulted from the salvarsan or from antibodies contained in the serum. The authors have studied the effects of such serums when injected intraspinaly into tabetics and patients with other organic lesions of the central nervous system. The blood used for the injection has been withdrawn an hour after the intravenous injection of salvarsan or neosalvarsan. The technique of injection is described. The results obtained in a few cases are reported. Two of four tabetics treated by salvarsan and then by intraspinal injection of their own serum showed improvement in that the

Wassermann reaction became negative. Other cases are cited in which the results have been promising. The authors have also injected salvarsan and neosalvarsan directly into the spine of animals, but the results were so unfavorable that this method has not been tried in patients. The authors conclude that the best results may be expected from the intravenous treatment with salvarsan or neosalvarsan combined with intraspinal injection of the patient's own serum.

(*Ibidem*, July 20, 1912, xcvi, No. 3.)

**Syphilitic Facial Paralysis.** CHARLES O. FILES, p. 124.

Files reports the case of a man, aged sixty-eight, infected with syphilis forty-five years previously who suddenly developed peripheral facial paralysis of the left side. An ulcer of the soft palate which was discovered on examination was regarded as the cause of the paralysis. The ulcer healed in three weeks under iodides, and at the end of one year almost complete recovery from the paralysis had taken place.

(*Ibidem*, July 20, 1912, xcvi, No. 3.)

**The Use of Spinal Fluid (Auto-therapy) in the Treatment of Chronic Neurosyphilides.** WILLIAM BROWNING and WILLIAM LINTZ, p. 116.

The authors continue the exposition of their experimental treatment of neurosyphilides by withdrawal of spinal fluid and its subcutaneous reinjection into the patient. The details of the treatment of four cases of spastic paraplegia are given. Two cases improved decidedly and two were uninfluenced by the treatment. This method of treatment is limited by 1, the stock of antibodies in the spinal fluid is soon exhausted; 2, some apparently suitable cases fail to show any important content of antibodies in the spinal fluid; 3, the antibodies of the administered material rapidly disappear from the system. An important by-effect of the injections has been an improvement of the bowel movement.

(*Ibidem*, July 27, 1912, xcvi, No. 4.)

**Mercuric Salicylate Intramuscular Injections in Syphilis.** J. L. WOLLHEIM, p. 175.

Wollheim gives the results of some experiments made with different suspensions of mercury salicylate to which had been added 2% quinine and urea hydrochloride. Five different formulæ are appended. The principal one consists of quinine and urea hydrochloride 2.00, distilled water 2.00, anhydrous wool-fat 20.00, mercuric salicylate 10.00, liquid vaseline, q.s. ad. 100.00. With this formula about three-fourths of the injections are said to be painless.

(*Ibidem*, Aug. 31, 1912, xcvi, No. 9.)

**Salvarsan Therapy.** HENRY H. MORTON, p. 425.

Morton states that after a year's trial of salvarsan the opinion is that syphilis cannot be cured by it, but that mercury must be used in addition. In primary syphilis, however, a cure is possible by excision of the chancre and the use of salvarsan and mercury. Morton believes that the combination of salvarsan and mercury will, in general, shorten the duration of the treatment of syphilis.

The special indications for salvarsan are: 1, as an abortive treatment; 2, when there is an idiosyncrasy to mercury; 3, when mercury fails.

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The two special contra-indications are: 1, severe circulatory lesions; 2, brain syphilis.

Morton quotes Roscher who advises, at the beginning of the treatment of syphilis, a few injections of sublimate or salicylate of mercury. This is said to prevent deafness. An intravenous injection of salvarsan is then given, followed by six or eight weekly calomel injections. If the Wassermann is still positive, a second intravenous injection of salvarsan is advised. If, later, the Wassermann again becomes positive a repetition of the salvarsan and mercury, but somewhat less vigorously, is advised. Every three or four months the Wassermann should be repeated and treatment instituted, as the symptoms indicate, for a period of two or three years. Later potassium iodide may be given for three or four weeks in doses of fifty grains a day. Salvarsan will not cure tabes or paresis, but may mitigate the symptoms. The intravenous method exclusively is advised.

(*Ibidem*, Aug. 31, 1912, xevi, No. 9.)

**Cutaneous Sporotrichosis.** GEORGE B. FOSTER, JR., and WM. H. THEARLE, p. 420.

Foster and Thearle report a case of sporotrichosis occurring in a soldier living in Fort Leavenworth, Kansas. When first seen the disease had been present two weeks and consisted of "boil-like" lesions which were incised and drained. The lesions did not heal, however, but sloughed until several ulcers were formed, one and one-half by three-quarters of an inch in diameter. Continuous extension along the lymphatics occurred until the axillary glands were involved. The disease was now recognized and cultures from an unbroken lesion revealed the sporothrix. Potassium iodide was now administered to the point of tolerance and in two weeks the patient had almost completely recovered. A photograph of the case is appended.

## JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

(Sept. 2, 1912, xv, No. 17.)

Abstracted by R. C. JAMESON, M.D.

**Treatment of Leprosy by Nastin.** K. S. WISE and E. P. MINNETT, p. 259.

The authors give a summary with the results obtained in the treatment of 244 cases treated by Nastin over a period of four years. At first the results were thought to be very encouraging, as most of the cases showed a general improvement during the first three to six months. The improvement then stopped and the old lesions all returned in spite of continued treatment. They consider the treatment only a slight temporary check to the course of the disease.

**Editorial on "Recent Investigations on the Ætiology of Pellagra,"** p. 262.

This editorial covers a preliminary report on the work of Drs. Sambon and Chalmers in Egypt, Italy, Spain, Austria, Roumania, France and Hungary, upon the question of the ætiology of pellagra.

A large number of different conditions was carefully investigated in this search, among them being topographical distribution of the disease, location of towns, the endemic character of the disease in some places and the seeming immunity in others. All true pellagra stations were found closely connected with

running streams, while in all these centers children were invariably affected, the disease appearing to be associated with Simuliidae in the European centers.

It was also found that people moving to endemic centers became infected as a rule during the first season of exposure to infection, while climatic conditions also affected the outbreaks, cold weather being unfavorable for the condition to spread. Those who do not engage in field work, especially Jews, and, in some countries, gypsies, were found to be immune to the disease as well as the town dwellers. The analogy in aetiology between malaria and pellagra is very marked in some locations which had previously been endemic for both pellagra and malaria, as both these diseases almost completely disappeared with improved drainage, greater cultivation and the introduction of fish in all streams. These same conditions were found to hold good for France, the Austrian Tyrol, Roumania and Egypt.

In their investigations in and around Venice they found the following: Venice is free from pellagra while the fishermen who live on the neighboring islands and fish along the coast and in the small streams are infected with pellagra. The families of the fishermen are, with few exceptions, pellagra free and the males do not become infected until they are old enough to go with the fishing boats. These investigations would seem to exclude the maize theory, direct contagion, house infection and hereditary transmission and to point conclusively to the insect-carried infection of pellagra.

(*Ibidem*, xv, No. 18.)

**Report on the Treatment of Twenty-two Cases of Yaws by Salvarsan Injection at the Yaws Hospital, St. George's, Grenada, W. I. R. P. COCKIN, p. 277.**

The author reports very favorable results following the use of salvarsan in this disease as the cases are all reported cured in a period averaging 25 days, while the older methods of treatment required three months. Injections were all given intramuscularly and prepared according to the method of Taege, only one case requiring a second injection. In concluding, the author also states that "with regard to duration of stay in hospital, it must be remembered that practically all yaws cases here are infected with ankylostomiasis, and that removal of these parasites is necessary as a preliminary to any treatment by salvarsan."

**OPHTHALMIC RECORD.**

(July, 1911.)

\* Abstracted by CLARENCE ALLEN BAER, M.D., from the OPHTHALMIC REVIEW, Aug., 1912.

**Ocular Findings in Hereditary Syphilis. E. STIEREN.**

Stieren says that 50% of syphilitic fetuses are still born and of the remainder 80% develop ocular disease. Interstitial keratitis is described at length. Iritis is rather uncommon; it may occur before birth or between ages of 10 and 20, and usually affects but one eye. Choroiditis is seldom acute but nearly always pre-natal. Optic neuritis was found in 81.9% of infants with hereditary syphilis in Neumann's clinic in Berlin. Antonelli asserts that 50% of luetic children squint, but the author places this as too high a percentage.

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### OPHTHALMIC REVIEW.

(August, 1912.)

Abstracted by CLARENCE ALLEN BAER, M.D., from ANNALES D'OCULISTIQUE, Jan., 1912, cxlviii.

#### On the Practical Value of the Wassermann Reaction in Eye Work. M. MONRADIAN.

Monradian gives a useful collected table of conditions in which positive reactions have been obtained; a total of 1345 examinations with 574 positive reactions (42.06%). In 64 cases of iritis and iridocyclitis there were 25 positive reactions (39%). 40 cases of ocular paralysis gave 50% positive reactions. 33 cases of parenchymatous keratitis gave 22 positive (66%). 25 cases of choroidoretinitis give 7 positive (24%). 8 myopic choroiditis gave 1 positive. 6 scleritis gave 2 positive. 5 hæmorrhagic retinitis, all negative. 5 zona ophthalmica cases, 2 positive. 4 optic atrophy, 1 positive. 4 retinal detachments, 1 positive. 38 sundry cases gave 8 positive.

The author points out that results are not very helpful unless taken along with clinical conclusions. Dividing the cases into three groups, namely, certain, probable and doubtful syphilis, with no other evidence than the ocular condition, his findings are as follows: 70.5%, 45%, 23% respectively.

Monradian considers that the Wassermann reaction has less weight in ocular cases than in general medicine.

(*Ibidem*, August, 1912.)

Abstracted by CLARENCE ALLEN BAER, M.D., from WIESTN. OPT., Dec., 1911.

#### Salvarsan in Eye Diseases. S. V. OTCHAPOSKY.

The author surveys the literature and also adds some personal observations on the use of salvarsan in syphilitic diseases of the eye. Salvarsan did not prove successful in the treatment of interstitial keratitis. Only 45 cases out of 120 showed any benefit and the affection even developed in the other eye while under the influence of the drug. In syphilitic iritis salvarsan proved more efficacious, but relapses were more frequent than after the mercury-iodide treatment. In several cases the iris in previously healthy eyes became severely affected after salvarsan, and was cured only by mercurial treatment. In 4 cases of tabetic atrophy (ocular), 2 were unaffected by salvarsan and in 2 the useful vision deteriorated considerably after the use of the drug. "Neuro-relapses" were observed in 4 cases.

### ARCHIVES OF OPHTHALMOLOGY.

(May, 1912, xli, No. 4.)

Abstracted by CLARENCE ALLEN BAER, M.D.

#### Some Ocular Manifestations of Syphilis and Parasyphilis of the Nervous System. GEORGE H. KNAPP, p. 235.

The author emphasizes that certain symptoms occurring on the part of the eyes, far from being of local interest only, are of the utmost importance in the diagnosis early in the disease before irreparable damage has been done. Good can be expected to result from treatment only when instituted in the beginning

of the disease. Therefore, the early appearance of ocular symptoms gives them a very great importance. Intracranial syphilis may manifest itself in several ways: (1) by circumscribed gummata; (2) by diffuse gummatus meningo-encephalitis; (3) by certain characteristic alterations in the cerebral vessels. Cases are cited of double optic neuritis resulting from increased intracranial tension due to cerebral gumma and of inflammation of the optic nerve by the extension of a basilar luetic meningitis. The author furthermore states that hemianopsia (chiefly bitemporal) is of frequent occurrence and that varying degrees of ophthalmoplegia are produced by basal meningitis.

The author then outlines the principal ocular changes in early tabes and in early paresis. The Wassermann test and examination of the cerebro-spinal fluid are of inestimable value in arriving at a diagnosis. Ophthalmologists are warned that the ocular symptoms are but expressions of central nervous changes and that patients should not only be treated until symptoms are relieved, but should be "kept under observation for an extended period of time and thorough treatment continued until the Wassermann test has been found repeatedly negative."

(*Ibidem*, Sept., 1912, xli, No. 9.)

**Syphilis of the Orbit; Report of an Unusual Case.** OSCAR DODD, p. 472.

Syphilis of the orbit comprises only one to two per cent. of all syphilitic eye cases and one in 5000 of all eye diseases. It may occur with either the hereditary or the acquired forms of syphilis.

There are two groups of cases: (1) those in which the orbital margin is primarily affected; (2) those beginning with a periostitis or gumma of the orbital wall. The characteristic symptoms of such cases are then recounted. A large number of cases of syphilis of the orbit occur simultaneously on both sides. The hereditary cases present the greatest difficulty in diagnosis and also the largest mortality.

The detailed history of a case in a woman, aged 31, is then recorded.

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BOOK REVIEW.

**A TREATISE ON DISEASES OF THE HAIR.** By GEORGE THOMAS JACKSON, M.D., Professor of Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, and CHARLES WOOD MCMURTRY, M.D., Instructor in Dermatology in the College of Physicians and Surgeons, Medical Department of Columbia University, New York. Octavo, 366 pages, with 109 engravings and 10 colored plates. Cloth, \$3.75 net. *Lea & Febiger*, Philadelphia and New York, 1912.

The treatise on diseases of the hair that has just been written by Drs. Jackson and McMurtry is a most valuable contribution to American dermatology. It is now a long time since the last edition of Dr. Jackson's book on the hair was published and the time was certainly ripe for a volume that would contain the recent scientific work that had been done upon this subject. The book is not only a scientific contribution, but is one that is thoroughly readable and of interest to dermatologists and to general practitioners alike.

The association of the two authors was a happy one, Dr. Jackson utilizing his extensive clinical experience to write the more practical side of the subject

and Dr. McMurtry making use of his laboratory knowledge to discuss the more purely scientific side. Numerous references to the literature are given (some 330) and, in addition, many authorities are casually quoted without reference.

The book contains 359 pages in which are found numerous photographs of cases as well as illustrations of microscopical and bacteriological preparations. A few of the illustrations are colored. Special attention has been paid to the lists of the synonyms of various diseases which are given in French, German and English and in some cases in other languages. A valuable feature is found in the statistics of cases that have occurred in private practice, which should prove to be a more valuable record than statistics obtained in hospital or dispensary practice.

Like the usual text-book this treatise is supplied with a selected list of formulæ without which the general practitioner would feel dissatisfied. The difficulty in choosing from a large selection of remedies for diseases like alopecia areata, seborrhœa, ringworm, etc., is avoided by giving a résumé of the authors' favorite methods of treatment.

The subject-matter of the book has been considered under five general headings: 1. General considerations, including anatomy, physiology and hygiene of the hair. 2. Essential diseases of the hair. 3. Inflammatory diseases of the hair follicles. 4. Parasitic diseases of the hair. 5. Diseases of the hair secondary to diseases of the skin.

Chapter 1 gives a clear description of the anatomy of the different types of hair and of the follicles and sebaceous glands. It is accompanied by numerous black and white as well as colored illustrations, some of which are original drawings by Dr. McMurtry. Chapter 2 describes the physiology of the hair and devotes several pages to its development in the embryo. The process of shedding the hair, by going through the intermediate stage of so called "bed hair" is clearly described and illustrated. Many interesting facts are given which relate to the growth, physical and chemical properties of the hair, much of which is new to the average dermatologist. The important subject of hygiene of the hair is discussed in Chapter 3, which concludes by pointing out improvements which could be made in the majority of our barber shops.

Canities is described in Chapter 4. A page of text is given to prove that cases of sudden blanching of the hair have been well authenticated by reports of competent observers. Various discolorations of the hair, partly from internal, partly from external causes, are described, including green hair in copper workers, blue hair in cobalt miners, indigo-workers, etc.

In Chapters 5 and 6 the all-important subject of alopecia is discussed. The classification of the different forms of baldness is the same as the one found in Jackson's Handbook of Diseases of the Skin and is too well known to be repeated. In the treatment of premature alopecia the authors recommend pilocarpine as a local stimulant and state that they "have used it in many hundreds of cases." In the treatment of alopecia pityrodes sulphur is the favorite medicinal remedy.

Considerable space is devoted to the ætiology of alopecia areata, the parasitic, trophoneurotic, dystrophic (Jacquet) theories being fully discussed. The evidence apparently proves the validity of the trophoneurotic theory in the majority of the cases at least. For the treatment of this condition the authors found that phototherapy by means of the iron electrode lamp was the most powerful remedy they possessed. Their experience had been confined to the Piffard lamp "held in the hand far enough from the scalp to prevent sparking, each place being exposed from five to ten minutes every day or second day."

Chapter 7 gives a description of fragilitas crinium, trichorrhæxis nodosa, monilethrix and anomalies in hair texture. Chapter 8 is devoted to the practical subject of hypertrichosis and its treatment. Interesting cases of abnormal hairy development are mentioned and a personal description of the famous



"Russian dog-faced boy" is given. Trichiasis, trichonodosis, trichotilomania and hairy nævus are described in Chapter 9 and sycosis and folliculitis in Chapter 10.

Chapter 11 contains a discussion of the rare and interesting conditions grouped under the general title of folliculitis decalvans. These include: 1. Alopecia, cicatrisata (the pseudo-pelada of Brocq). 2. Depilating folliculitis. 3. Lupoid sycosis. Unusually good photographs of these conditions add greatly to the text.

Chapter 13 is devoted to the important question of ringworm of the scalp. The clinical description of this malady includes an account of the ordinary gray-patch ringworm and the disseminated, "black dot," "bald" and pustular varieties of the disease. Considerable space is given to our bacterial knowledge of the disease, largely taken from the work of Sabouraud. This includes descriptions of morphology, cultures and animal inoculations, which are accompanied by beautiful illustrations. A special chart is devoted to Sabouraud's classification of the different forms of ringworm fungus. Of the eleven different species of microsporon given by Sabouraud two are described in this treatise, namely, the *Microsporon Audouini*, and the *Microsporon lanosum*, the representative species of animal origin. Of the forty species of trichophytons mentioned by Sabouraud, seven are here described. Three of these are of the endothrix type, namely, the *Trichophyton crateriforme*, *Trichophyton acuminatum* and *Trichophyton violaceum*. A description is given of one species of the neo-endothrix, so called because it is temporarily an ectothrix becoming later an endothrix. Finally, three species of the pure ectothrix type are described, namely, the *Trichophyton asteroides*, the *Trichophyton rosaceum* and *Trichophyton ochraceum*.

In giving the microscopical technique for examining hairs for ringworm the authors recommend a forty per cent. solution of potassium hydrate for quick diagnostic work, while for ordinary laboratory use a ten per cent. solution is considered satisfactory. The section on treatment naturally includes a description of Sabouraud's method of using the X-rays, while among the medicinal agents iodine (crystals) in goose grease, in the proportion of a dram to the ounce, is recommended by the authors as a result of years of successful use. The subject of ringworm is completed by a chapter on the disease as it affects the beard and another chapter on kerion.

Favus is considered in Chapter 15. In addition to the *Achorion Schoenleinii*, four other species of the fungus are described. A fine illustration of the clinical appearance of the disease is taken from Rainsforth's *Stereoscopic Skin Clinic*. A most readable description of pediculosis appears in Chapter 16, which contains a very realistic picture of an aggravated case of pediculosis capitis. *Plica polonica*, *piedra*, *leptothrix*, etc., are discussed in the following section.

Chapter 18 gives a clear account of a portion of dermatology about which there has been much confusion, namely, seborrhœa and pityriasis. With regard to seborrhœa the authors do not hesitate to say that the more recent and advanced writers consider that there is only one form of seborrhœa, namely seborrhœa oleosa and that the so-called seborrhœa sicca is simply pityriasis. With regard to Sabouraud's contention that his microbacillus is the cause of seborrhœa, the authors feel that "he has not yet proved his case," although they say "it is extremely probable that his opinions may in the near future receive ample confirmation and general acceptance." With regard to the spores of *Malassez* (bottle bacillus) being the specific cause of pityriasis simplex they state that "if Sabouraud has not yet succeeded in proving his contention, he has already demonstrated the constant presence in immense numbers and in growing colonies of the spores of *Malassez*, in all cases of pityriasis simplex, whereas these bacteria occur on the normal skin as only scattered units or small groups. Their absolute specificity remains to be demonstrated."

The authors then describe pityriasis steatoides, which according to Sabouraud is a pityriasis simplex plus a secondary infection with his polymorphous coccus with gray colonies (probably the *morococcus* of Unna). Finally, dermatitis

seborrhœica is described and the view of Sabouraud is quoted that its cause lies in a combined action of the microbacillus, the spores of Malessez and the polymorphous coccus above mentioned.

The remaining three chapters of the book are devoted to a consideration of various other diseases of the hair, including among others, eczema, impetigo, lupus erythematosus and syphilis.

The work of the publishers, Lea & Febiger, is all that could be desired. The paper and printing are excellent and the illustrations are unusually good.

H. F.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. [XXXI

FEBRUARY, 1913

NO. 2

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## EDITORIAL.

### ON THE CHOICE OF DERMATOLOGICAL NAMES.

**I**N choosing a name for a disease which is more or less familiar to all and to which various names have been applied, what rule is to be followed? Shall we call the disease by the name given by the one who first called attention to it, or by the name chosen by the one who was the first to fully describe it? Shall we employ a more appropriate name selected after the nature of the disease is better understood, or shall we call the disease by the shortest and most convenient title, or by the one in most common use? The question is one of interest and importance to all dermatologists, and in the absence of any international authority, can only be approximately settled by informal discussion.

As an instance of our confused and unfortunate nomenclature, take the disease first mentioned by Devergie in 1857 under the name of *pityriasis pilaris*. The three cases he recorded were undoubtedly identical with the thirteen cases described more fully and unmistakably by Hebra in 1862 under the name of *lichen ruber*. In 1869, Wilson published his magnificent description of *lichen planus*. The idea that at this time Hebra knew nothing of this disease is almost incredible, but in the first edition of his *Lehrbuch* no description of it is to be found. In the second edition (Hebra and Kaposi, 1872) the disease is mentioned as a form of *lichen ruber* characterized by smooth, shining papules with a central depression. For some time German writers claimed that the *lichen planus* of Wilson was only a clinical form of *lichen ruber*, while English writers, on the other hand, regarded the *lichen ruber* of Hebra as nothing more than a generalized form of *lichen planus*.

Kaposi (*Hautkrankheiten*, 1880) confounded these distinct af-

fections by calling them lichen ruber acuminatus and lichen ruber planus, which terms are still used by some writers and tend to mislead students into the erroneous belief that they are clinical forms of the same disease. French writers, loath to credit Hebra with the description of a new disease, justly claimed that Devergie had been the first to recognize it. But instead of using the name Devergie chose for it, Besnier in a masterly review of the disease (1889) coined the unnecessarily long and hence objectionable term of pityriasis rubra pilaris.

It is unfortunate that our esteemed French colleagues are so prone to weave a partial description into the name of any new disease, and it is to be regretted that both Kaposi and Besnier saw fit to choose triplicate titles for a disease which had already been recognized and discussed under shorter and less objectionable names. It is also regrettable that after various English and American writers had adopted the name of lichen ruber, so many of their successors have been led to accept a title for this disease which was not chosen by the one who first recognized it or by the one who first gave a tolerably complete description of it—a title which is neither short, convenient nor euphonious but, on the contrary, as cumbersome to the teacher as it is confusing to the student.

Upon our teachers and text-book writers rests a great responsibility in the choice of dermatological names, and a little more time and thought given by them to this subject will command the gratitude of a future generation. National pride or prejudice ought to play no part in the selection of the most desirable name, although it is hard to blind our eyes to the fact that it has done so in the past and may do so in the future.

A name without any meaning is most likely to endure. A name involving a pathological idea may be highly appropriate to-day, but it is likely to become inaccurate when our conception of the disease undergoes a change, as not infrequently happens. Names are chosen for our convenience. The main thing to be desired is to have them short, unmistakable and, so far as is possible, uniform in all countries.

GEORGE HENRY FOX, M.D.

## A SUGGESTION AND AN INVITATION.

**T**HERE is a rapidly growing dissatisfaction with our present dermatological nomenclature. The occasional attempts of the past to improve this feature have not been attended with universal success. This question will probably be discussed at the next sessions of the American Dermatological Association and the Dermatological Section of the American Medical Association. There is no doubt that the nomenclature requires revision, but careful thought and discussion are required to preclude the possibility of deeper confusion instead of obtaining the desired relief. It would seem advisable for the larger dermatological bodies of the various countries, after due consideration, to formulate suggestions relative to this question. These societies and associations could then be represented by committees at the next International Dermatological Congress. In the meantime we will be pleased to publish letters from our readers containing opinions and suggestions regarding the best method of obtaining a universally satisfactory and a simplified nomenclature and classification.

ED.

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## CONCERNING EPITHELIOMA OF THE LIP.\*

By WILLIAM ALLEN PUSEY, M.D., Chicago.

**A**T the evening session of this Association last year Dr. Trimble read a paper calling attention to four topics, the least important one of which, I am sure he thought, was a report of a case of epithelioma of the upper lip and one of the mouth treated by X-rays. When discussion was called for, there was a long pause and I, feeling that so good a paper should not go undiscussed, undertook to say a few words on the topic in the paper referring to X-rays. In so doing, my amiable effort to be considerate miscarried, in a way that not infrequently occurs, and I precipitated upon my offending head a torrential rain of criticism. For in the first place I spoke of "rodent ulcer type" of epithelioma of the lip, and in the second I

\* Read at the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

approved of treating selected epitheliomata of the lower lip with X-rays.

1. Two speakers of acknowledged authority in cutaneous pathology questioned the occurrence of rodent ulcer of the lip or lower lip.

2. Two others thought it criminal—I having first used that unpleasant adjective—to treat an epithelioma of the lower lip in other ways than by operation, because there was almost invariably involvement of the glands beneath the jaw and in every case these glands should be removed as a part of the primary operation.

3. And one had found that X-rays only aggravated prickle cell carcinoma and, in such cases, instead of acting as a destructive agent rather stimulated the carcinoma to increased growth.

These three points are all of high importance and I propose briefly to consider them here.

### 1. RODENT ULCER OF THE LIPS.

It is extremely difficult to find statistics upon the histological structure of epitheliomata of the lip, but a by no means complete examination of the recent literature of epithelioma of the lip has given the following facts upon the occurrence of rodent ulcer upon the lips:

Bloodgood of Johns Hopkins (*Jour. Am. Med. Assn.*, 1910, LV, p. 1615), reports a list of 106 epitheliomata of the lower lip with careful details as to their histological structure. Of these, four cases were baso-cellular. These cases were lesions of the red border of the lip, for he says, referring to them: "A lesion at the mucocutaneous border of the lower lip in the majority of instances is a carcinoma spino-cellulare. I have observed . . . but four basal-cell epitheliomata." In Bloodgood's statistics he has 13 cases of epithelioma of the upper lip; 9 of these 13 were basal-cell tumors, but he states that nearly all of these were primarily in the skin of the upper lip, so that they may not be epitheliomata of the lip in the sense which my colleagues had in mind.

Borrmann (*Deutsch. Zeitschr. f. Chirurg.*, 1905, LXXVI, p. 404), in a careful histological study of epitheliomata of the lip records one case of rodent ulcer, or corium carcinoma as he proposes to call this type of tumor, in 74 cases of epithelioma of the lower lip. In 6 cases of cancer of the upper lip, he found 2 cases to be basal-cell.

These statistics agree pretty closely in showing the occurrence of rodent ulcer in approximately  $1\frac{1}{2}$  to 2 per cent. of the cases

of cancer of the lower lip. As to the upper lip, these statistics agree with the common findings which indicate that in epithelioma of the upper lip, rodent ulcer instead of being relatively uncommon occurs probably in a majority of cases.

I have not found any other record of a considerable number of epitheliomata of the lower lip with the histological findings, but it is not difficult to find in the literature reports of authentic detached cases of rodent ulcer of the lip.

Bowlby (*Tr. Path. Soc.*, London, 1894, xlv, p. 152) gives the location of 66 cases of rodent ulcer microscopically examined, of which 64 were on the face; of these 64 cases, one was located on the upper lip and one at the labial commissure.

These findings agree closely with those of Borrmann (*Zeitschr. f. Krebsforsch.*, 1904, No. 2, p. 1). He examined 80 cases of rodent ulcer, of which 75 were of the face; and of these 75, one was located upon the upper lip and one upon the lower.

Colcott Fox (*Tr. Path. Soc.*, London, 1894, xlv, p. 178) gives in detail the histology of a rodent ulcer of the lower lip, which at the time of removal was supposed to be a squamous-cell epithelioma.

Kreibich (*Dermat. Zeitschr.*, 1904, xi, p. 675), in speaking of the relation of epithelioma adenoides cysticum and carcinoma, reports a rodent ulcer of the lip and again, in the *Archiv für Dermatologie und Syphilis*, 1898, xlii, p. 340, he refers without detail to a rodent ulcer of the upper lip.

Of course the cases of rodent ulcer occurring primarily on the mucous border of the lip are highly interesting with reference to the theory of the origin of rodent ulcers from hair follicles. They are inconsistent with that theory, unless they arise in misplaced tissue, but there occur records of the best possible authenticity of rodent ulcers about the mouth which are even more opposed to the hair follicle view of the origin of rodent ulcers. Thus, Krompecher records (*Zeigler's Beiträge*, 1900, xxviii, p. 1), a case—his case number XX—of basal-cell epithelioma with slight horn formation which was located on the tongue. And Clairmont records from von Eiselberg's clinic (*Arch. f. klin. Chirurg.*, 1907, lxxxiv, p. 98), the following basal-cell epitheliomata: Two basal-cell epitheliomata of the upper lip; one of the antrum of Highmore; one of the soft palate; one of the uvula.

All of the men from whom these findings are quoted are, of course, of the highest standing and I think, therefore, that we must accept the fact that rodent ulcer may occur on the lips, and even on the mucous membrane within the mouth.

## 2. TREATMENT OF EPITHELIOMA OF THE LIPS WITH THE X-RAY.

On the question of the treatment of epithelioma of the lip with X-rays I shall only consider my own experience. I treated with X-rays my first epithelioma of the lip in December, 1901, and since that time I have records of 44 cases, all treated in private practice, previous to January 1, 1909, *i.e.*, more than three years previous to January, 1912.

Before taking up the results it may be of interest to give some details concerning them as a group.

Forty cases were of the lower lip—all men. Four were of the upper lip; of these, three were women and one a man. The epithelioma of the upper lip in the man was just above the red border of the lip and I think all of these epitheliomata of the upper lip began in the skin. The epitheliomata of the lower lip were all lesions on the muco-cutaneous surface.

Dating from the time they came under treatment, the youngest patients—there were two at that age—were 28; the oldest, 90. The mean age was  $53\frac{1}{2}$ . There were two patients under 30; five between 30 and 39; nine between 40 and 49; fifteen between 50 and 59; six between 60 and 69; five between 70 and 79; and two over eighty.

The cases were for the most part selected cases, *i.e.*, the lesions were as a rule superficial, not extending deep into the lip, but this statement by no means covers all of the cases, for some were not regarded as favorable and were treated only because operation was not practicable. The list does not include many cases that I have treated of extensive carcinoma of the neck following cancer of the lip. In only two cases were glands palpable at the time of beginning treatment and of course operation was urged in these cases. One of these was not helped and presumably died of carcinoma, but the other to my surprise has been well six years. In another case a gland developed beneath the angle of the jaw after the lesion on the lip had healed, but subsided, and the patient, a physician, has been well seven and a half years.

The lesions in these cases varied from small finger-nail-sized nodular masses, or ulcers with nodular borders and indurated bases, up to ulcers covering nearly the entire lip to tumors the size of an olive. In some of the cases the ulceration destroyed a considerable part of the lip to a depth of a quarter of an inch or more.

Of these 44 cases I know the subsequent history to January, 1912, of all but five; of these five, four were lower lip cases and one, a man with a lesion of the upper lip. One patient died from



intestinal obstruction five months after apparent cure, and this case is omitted from my list because the interval is not long enough to determine the result. Including this case, six cases must be thrown out, although the five cases which I am compelled to omit because their subsequent histories are unknown, were, I believe, successful cases.

Deducting these six cases, I have 38 cases whose subsequent histories are complete, 35 of them epitheliomata of the lower lip; three of the upper lip. Of these 38 cases, 28 patients were living and free from epithelioma of the lip or metastases arising therefrom in January, 1912; 4 were well when last heard from, from three to seven years after their treatment; 4 had died from other causes; one at the age of 81, from cerebral apoplexy, three years after treatment; one from paralysis of slow progress, at the age of 66, eight and a half years after treatment; one from senility at 94, four years after treatment; and one at 88, from senility, three years after treatment; 2 cases were failures; the disease spread to the glands beneath the jaw and caused death. In one of these cases glands were palpable at the time of beginning treatment.

Two of the patients have lived now nine years; 7, eight years or more; 7, seven years or more; 5, six years or more; 2, five years or more; 5, four years or more; 8, three years or more. The mean average interval which has elapsed since treatment in the 36 cases is six years.

Of the patients who died from other causes than carcinoma, one had a recurrence in the lip and in a way, therefore, was a failure. This was an old lady, over ninety, who had a recurrence in a large V-shaped scar after an operation for epithelioma of the upper lip. It was inoperable—the patient was referred to me by Dr. John E. Owens, surgeon to St. Luke's Hospital, Chicago—and she was sent to me for palliation. The lip was healed and she lived four years and died of senility, but at the time of death there was a distinct recurrence in the lip. This is not, therefore, fairly attributable as a failure to the treatment, but even with that case included the method has only three failures in 38 cases.

Not including this case the percentage of failures—2 cases in 38—is only  $5\frac{1}{4}$  per cent. Including the old lady with the lesion of the upper lip, who died four years later of senility and who was a hopeless case from the standpoint of operation, the failures amount to  $7\frac{1}{2}$  per cent. Or considering only the epitheliomata of the lower lip there are 2 failures in 35 cases— $5\frac{7}{10}$  per cent. of failures; that is little, if at all, above the operation percentage of deaths in these

patients if the radical operation is done, which it is maintained should be done in all epitheliomata of the lower lip. I repeat again that these cases were in the main selected cases, but even with that fact I am willing to compare these results with the results of surgery in such cases.

X-rays do not offer so radical a method of treating all epitheliomata of the lower lip as does the operation which includes the removal of the submaxillary glands; but, if the removal of these glands is not to be done—and in many cases for various reasons this is not practicable—all can be done by X-rays that can be done by any other method. I do not want to be understood as advocating the substitution of X-rays for radical operation in epithelioma of the lip, but only as saying that the method is efficacious on the lesions of the lip itself and is entitled to consideration in those cases in which the radical operation is not thought to be necessary, or is for any reason impracticable. And I offer my experience as indicating that there are numerous cases of epithelioma of the lower lip in which X-rays may be used with radical success. The selection of these cases requires expert judgment, if you please, but the successful treatment of epitheliomata of the lower lip, no matter what the method, requires the same quality.

The weak point in my statistics is that the cases did not all have the diagnosis confirmed by microscopical examination; for during recent years, since X-ray therapy has in my opinion become an established method, I have not as a routine taken sections from these cases. But that there is any real doubt as to the epitheliomatous character of these lesions I personally have no uncertainty. They came to me as epitheliomata, many of them from recognized surgical authorities of this country. Chronic lesions of the lip presenting the clinical characteristics of epithelioma, occurring in men the large proportion of whom are beyond forty years of age are epitheliomata. And these lesions fit that characterization. In practically all of them there existed the indurated base and the waxy, usually hard, rolled or nodular border characteristic of epithelioma. I present pictures of two of the early cases, which are typical of the whole group and I think no one with large experience in epithelioma can doubt their character. This list does not include numerous cases of simple leukoplakia, of ulcerating syphilide and of various other non-cancerous diseases of the lip, which have been referred to me as possible epitheliomata. It includes only cases of whose epitheliomatous character I have no uncertainty. A few of them had had previous operation.

PLATE I.—To Illustrate Article on Epithelioma of the Lip,  
by DR. WILLIAM A. PUSEY.



Fig. 1.  
Epithelioma of Lower Lip and of Left Lower Eyelid.  
August, 1902.



Fig. 2.  
Same patient as portrayed in Fig. 1. Shows result of X-ray treatment several years later. Patient died 8½ years after treatment without having had recurrence.



PLATE II.—To Illustrate Article on Epithelioma of the Lip,  
by DR. WILLIAM A. PUSEY.

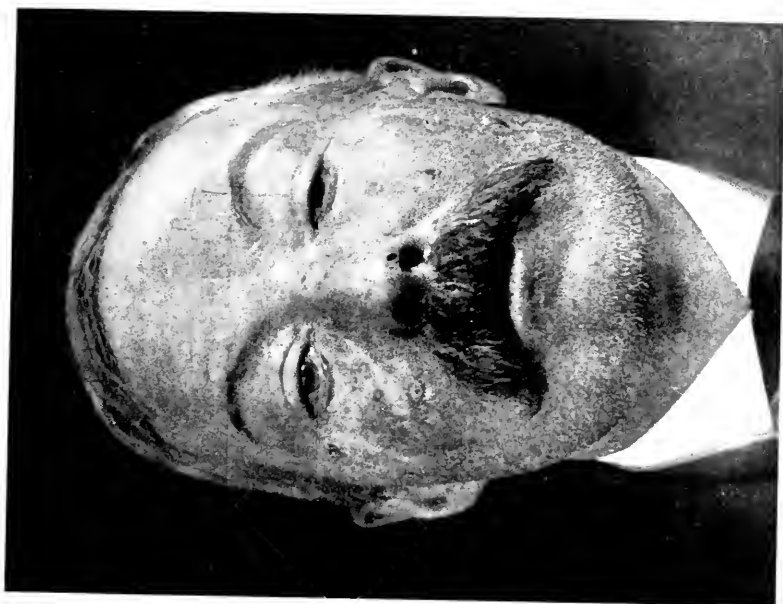


Fig. 4.  
Same patient shown in Fig. 3. Result after X-ray  
treatment. Photograph taken in March, 1912.



Fig. 3.  
Epithelioma of Lower Lip, March, 1903.



PLATE III.—To Illustrate Article on Epithelioma of the Lip,  
by DR. WILLIAM A. PUSEY.



Fig. 5.  
Squamous Cell Epithelioma of Nose,  
May, 1901.

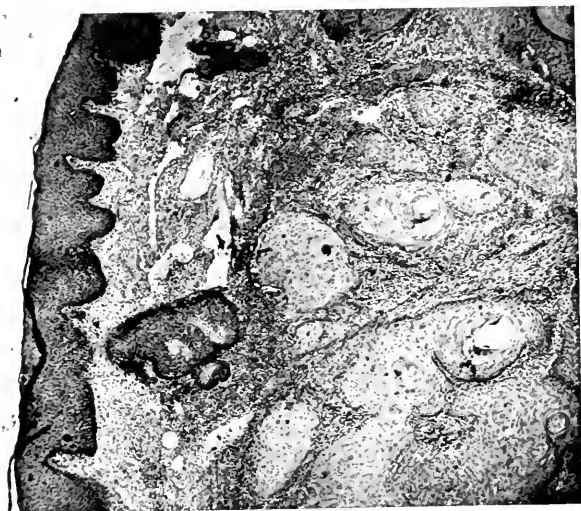


Fig. 6.  
Photomicrograph of case shown in Fig. 5.



Fig. 7.  
Result of X-ray treatment of  
lesion shown in Fig. 5. Photo-  
tograph taken in March, 1912.





## 3. AGGRAVATION OF EPITHELIOMA BY THE X-RAY.

These cases are, I believe, a sufficient answer to the idea that squamous-cell cancers will not yield to X-rays, but rather are aggravated by them. I will, in addition, offer in evidence only one case. The accompanying photograph (Fig. 5), taken in May, 1901, when he came under treatment, is of the first patient with squamous-cell epithelioma whom I treated with X-rays; I had previously treated two rodent ulcers. Fig. 6 is a photomicrograph of a section from the border of this lesion. It was a rapidly growing, deep-seated epithelioma on the tip of the nose. By September, 1901, it had healed with a healthy scar and it has remained well to the present time. Fig. 7 is from a photograph of this patient taken in March, 1912—ten and a half years since he had his last treatment. Such a case is, I believe, a satisfactory answer to the argument against treating squamous-cell epitheliomata with X-rays. And I have scores of similar results. Indeed, with an experience now of hundreds of epitheliomata treated with X-rays, I can still say that I have seen practically no cases in which the epitheliomatous tissue in the skin could not be made to disappear with X-rays. Rodent ulcer tissue yields, as a rule, more readily than squamous-cell carcinoma in the skin, but in the skin squamous-cell epitheliomata may be destroyed by X-rays with definite certainty.

I still hold to my old rule: I am willing to treat any epithelioma of the skin with X-rays, provided radical treatment does not require the removal of contiguous glands. And with an experience now of eleven years and covering the treatment of several hundred epitheliomata with X-rays, under that rule as guidance, I can recall no case that hurts my conscience.

Why then is it that my experience with X-rays is so different from that of some of my colleagues? Simply as a matter of fact, and with apologies for any immodesty in the statement, I must say I believe it is because they have not become sufficiently expert in the use of X-rays to apply them with assurance. The successful use of X-rays requires the development of a careful technique, and their desultory use leads to no results. I make these statements in the way of a plea, more than anything else, for the use of X-rays in skin diseases, for I am more convinced now than I have ever been that, used with attention to technique and with proper regard to their therapeutic indications, X-rays are one of the most useful or the most useful single agent of treatment in the service of dermatology.

## DISCUSSION

DR. POLLITZER said he thought Dr. Pusey's paper was one of great importance. He was glad to hear of the excellent results obtained by the author of the paper in this large series of cases of epithelioma of the lip, and that these cures were not temporary, but apparently permanent. At the present time the tendency had been to condemn the use of the X-ray in epithelioma and to resort to the older surgical measures. He was inclined to believe, in view of Dr. Pusey's convincing statistics, that the cause of the failures might be attributed to an inadequate technique in the use of this valuable agent. He expressed the hope that ten years hence Dr. Pusey would have a still larger and equally good series of cases to report.

DR. GRINDON said he had one case of carcinoma of the lower lip which was well after nine years and six months.

DR. HARTZELL said he was greatly interested in listening to Dr. Pusey's paper and learning the results he had obtained by this method of treatment. On one occasion, the speaker said, where he had successfully treated an epithelioma of the lower lip with the X-rays, the surgeons had criticized him mercilessly.

DR. ZEISLER said Dr. Hartzell had just struck a note of sympathy, as it were, which the speaker was glad to re-echo. The time had come when we, as dermatologists, must not only look to our laurels, but to our bread and butter. From all sides we found encroachments upon what we rightly considered our legitimate field. Recently, he saw a report springing from New York, belittling the dermatologist's knowledge of syphilis and by and by, it seemed, we would have to invoke the aid of the pathologist to help us make the diagnosis, the radiologist to apply X-rays for us and a third man to give an injection of salvarsan. Dr. Pusey's paper emphasized the value of a legitimate, conservative and non-surgical method of treatment for an affection which the dermatologist had long regarded as belonging to his field. Dr. Zeisler said his own experience with epithelioma of the lip was sufficiently large to enable him to judge that many of these cases could be successfully treated with the X-rays. When, however, the glands beneath the jaw were involved, then he regarded the case as unsuitable for X-ray treatment. With this limitation, which Dr. Pusey had already mentioned, the speaker believed that all forms of epithelioma could be successfully combated either with X-ray treatment, or refrigeration with the solid carbon dioxide.

DR. MACKEE said his experience was in accord with that of Dr. Pusey's and if it were criminal to treat epithelioma of the mucous membranes with the X-ray, then the speaker should have been punished long ago. Dr. Pusey was one of the pioneers in radiotherapy in this country and he was one of the few men who had obtained consistently good results. There was no secret about this; it was simply a question of a proper knowledge of malignant growths and of everything concerning the X-ray, together with careful attention to every detail of the technique.

The speaker had cured a few cases of inoperable cancer of the breast and of the lip, but most of them were within the last two or three years. He was unable to present a list of cases treated many years ago for the simple reason that there had been a complete loss of confidence in the X-ray in New York, particularly in reference to the treatment of cancer and it was only within the last two years that confidence had been sufficiently re-established to enable one to obtain cases that could be treated in this manner.

In the management of epithelioma of the mucous membranes the speaker always treated the neighboring lymphatics whether they were or were not palpable. His best results had been obtained with the massive-dose method, employing a filtered ray. In this manner he had been able to cure primary,

inoperable, malignant neoplasms of the lip and breast in from three to six treatments.

The fact that selected cases of epitheliomata of the lip could be successfully treated with the X-ray, together with the good results that were frequently obtained in properly treated, unfavorable cases, conclusively demonstrated that radiotherapy had not received the attention it deserved. There was much to be learned yet regarding proper technique and the speaker thought that the time was not far distant when surgeons would request the aid of the radiologist in a much larger percentage of cases than at present.

DR. ENGMAN said there was nothing in medicine that had interested him more than cancer and the work at the Barnard Free Skin and Cancer Hospital was largely devoted to investigations along that line. Most of the problems in connection with the ætiology and clinical manifestations of cancer were still unsolved.

Cancer of the lip, Dr. Engman said, was a dangerous disease—the most dangerous of any place on the face and while Dr. Pusey's paper was both interesting and instructive, the speaker said he had always been under the impression that it was very risky to resort to the X-rays in a cancer on the lip. Even in cases where the glands were not palpable and where the usual V-shaped incision was made by the surgeon, recurrences frequently took place under the jaw. Many of the cases they saw at the Barnard Hospital were recurrent cancers where an operation had previously been done on the lip; and while he did not wish to be understood as saying that a radical operation should be done in every case of cancer of the lip, yet theoretically it was indicated. We spoke of palpable glands, but that did not mean anything. In such a case one might find many involved glands upon proper exposure, but which were too small to be felt. There lay the danger. With the X-rays we could doubtless eradicate a cancer of the lip, but was it the best procedure?

From the work that had already been done in connection with cancer, some of it in this hospital, we could now speak of the infectiousness of the cancer cells. Dr. Loeb had shown this. The thorough eradication of the disease depended on the operator and the last word had not yet been said regarding the operative technique of cancer. There was very little known about the proper technique of handling cancerous tissue when it was being removed and as to the best treatment of cancer of the lip, that depended largely on the X-ray operator or the surgeon. It was well known that Dr. Pusey was an expert with the X-rays and, therefore, Dr. Engman said he would not think of condemning the X-ray method of treatment in Dr. Pusey's hands, but he did condemn it as a usual procedure.

DR. BULKLEY said he had treated a large number of cases of epithelioma of the face and among those he had treated some with the X-rays, but not cases of epithelioma of the lip. In the X-rays we had an excellent method for treating lesions about the eyes and nose, but when the epithelioma was located on the lip he was inclined to agree with Dr. Engman that not only the cancer itself should be removed, but also the glands and connective tissue underneath the jaw. The thoroughness of the operation and the permanence of the cure depended largely on the operator.

DR. ORMSBY said that for nine years, in the practices of the late Drs. Hyde and Montgomery, he had charge of the X-ray work. During that time, and in his own practice since, he had treated a large number of epitheliomata by that method and while his results, perhaps, were not as good as those of Dr. Pusey's he was still a warm exponent of the treatment and his X-ray apparatus was more active than ever. He had been able to keep some of these patients under observation for years and in addition to the excellent cosmetic results, the cures had been permanent. The results in the cases of epithelioma of the lip were very satisfactory and he felt convinced that for epitheliomata

of the skin, radiotherapy was the preferable method of treatment, providing, of course, the proper technique was employed.

DR. PUSEY said he wished to emphasize that he only recommended the treatment of epithelioma of the lip with the X-rays in selected cases and then the selection should be made by an expert. But as for that qualification, it applied to all forms of treatment; epithelioma of the lip should not be treated by anybody, whether by X-rays or by surgical measures, unless the operator was an expert. Personally, if he had to choose between a bungling surgical operator or a bungling X-ray operator, he would prefer the latter. In his own work, he selected only certain cases for X-ray treatment and his results, as shown in his paper, compared favorably with those obtained by any other method of treatment, surgical or otherwise. He was simply advocating the proposition that in a considerable number of selected cases of epithelioma of the lower lip, the X-ray was a perfectly eligible method of treatment; but it was a method which was liable to abuse, if it were not carefully restricted to proper cases.

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## SEBORRHŒA OF THE LOWER LIP AND ITS RELATIONSHIP TO EPITHELIOMA.

By DOUGLASS W. MONTGOMERY, M.D., San Francisco.

ON August 21, 1911, two men consulted me, whose condition illustrated admirably some points in the relationship between seborrhœa and epithelioma of the lower lip. One of them had a large epithelioma over the right malar region that had developed from a seborrhœic patch similar to many that were present on his face. He also had seborrhœic patches and a horny mass along the exposed mucous membrane of the lower lip, and these latter are the lesions that interest us chiefly in this paper. The other patient had had an epithelioma excised from the lower lip some years before. The scar from this operation was sound and smooth, but alongside it there was seborrhœic crusting, and there was seborrhœa of the face and an epithelioma on the right side of the nose.

The history of the first patient is so interesting that it may be given in detail. He was a powerfully built, large framed man, fifty-three years old, who presented himself on account of a huge cancer on the right cheek, which he said had begun ten years before as a dirty crust similar to several that were present. His story in this respect was quite in conformity with what we know of the evolution of these crusts. There was nothing unusual about the epithelioma itself excepting its size. It had a light red, hollowed-out base, and rolled edges, and all about it the skin was covered with

dirty, greasy seborrhœic masses. The patient's face, especially his nose, was oily, and across the middle zone, including the cheeks and nose, there was a fine rosaceous network of dilated capillaries, and over the breast bone there were patches of seborrhœic eczema. In addition to all these seborrhœic symptoms he had the yellow complexion of those suffering from seborrhœa. The skin of the neck presented a wonderful appearance. It was closely and deeply wrinkled, and although the patient was only fifty-three years old it tended to fall in front in the form of a withered dewlap. It had a golden-yellow, glistening color; the golden tint was, as will be shown later, icteric, and the yellow tinge, fatty and seborrhœic. It resembled a reptilian skin.

The patient's internal conditions were equally interesting. The mouth had the settled, sad appearance of one suffering from indigestion, and the furrows running downwards and outwards from the nose past the corners of the mouth were accentuated. He had a heavily coated tongue, retraction of the gums, and rotten teeth. He was constipated, had hypertympany over the stomach and large bowel, and much flatus passed per rectum. His conjunctivæ were tinged with bile, and bile and indican were found in the urine. The lower border of the liver extended far below the costal arch and was readily palpable. His pulse was visible at the wrist, and the second cardiac sound at the base was impure, indicating aortic valvular incompetence. This incompetence would account, to some extent at least, for the catarrhal jaundice and for the enlargement of the liver by passive congestion.

Icterus alone can cause profound disturbance of the skin, but functional embarrassment of the liver may affect the integument in still another way. Bile is a most important digestive fluid, and normally it is poured out into the alimentary canal in large quantity, a pint and a half a day. If this secretion is interfered with, many pathogenic fermentations are allowed to pullulate in the intestines. The biliary acids, especially taurocholic acid, are important anti-putrefactives. The contents of an intestinal canal deprived of bile are much more toxic than normal fæces, and when injected into an animal kill it much more quickly.<sup>1</sup> These toxic substances derived from putrefaction when produced in an intestinal canal with an insufficient or absent biliary supply must act detrimentally on all the tissues and, therefore, on the skin.

There was, however, still another part of this man's history, that threw some light on the degenerated condition of his skin. When I

<sup>1</sup> *L'Autointoxication Intestinale*, A. COMBE, 2nd ed.

first saw him he was a teamster, but during the greater part of his life he had been a farmer and a dairyman, and while following these occupations he partook of much butter, cream and milk, and there are many reasons for believing milk fat to be injurious to the skin. Much of the fat eaten undergoes little or no change, but is absorbed from the intestinal canal and laid down in the tissues as the kind of fat ingested, so that a man taking milk fat in large quantities, has that kind of fat employed in his skin, both in making the horn fat of the outer cutaneous envelope, and also the fat used in lubricating the surface. The fat contained in the sebum, cerumen and surface epithelium of heavy butter and cream eaters, therefore, contains much milk fat, a kind that readily taints, and this explains why these people are so susceptible to pyogenic infections of the skin; furuncles, carbuncles, and paronychias. It also explains why they so easily develop seborrhœic eczema, which is a catarrhal cutaneous inflammation caused by the action of microorganisms on a seborrhœic skin. Milk fat is not by any means the only cause of the seborrhœic skin, but it is a very frequent one.

The most interesting lesions the patient had, however, were those on the lower lip. The whole exposed mucous surface of the lower lip was scurfy, and in some places the scales were heaped up into crusts. To the left of the median line there was an amber-colored, hard, tightly adherent mass, forming a cutaneous horn, which was of the same nature as the crusts, but composed of more compact cells. In fact it is known that all these epithelial formations such as the patient had; the horn, the desquamation, and the crusts on the lip, and the greasy masses on the free surface of the face are of like nature, and underneath them the tissue tends to degenerate into epithelioma. It may do so very slowly, but in time the process so culminates, and herein lies the great interest that attaches to seborrhœa of the lower lip, for cancer of the lip is an infinitely graver disease than cancer of the skin. Cancer of the free surface of the skin, that begins under seborrhœic crusts, is an exceedingly slow growing neoplasm, often requiring years to attain a respectable size. It is the case where the tortoise has set out, no telling when he will arrive. The relative importance of seborrhœic crusts and corneous masses on the lip would, therefore, be equivalent to the greater gravity of cancer of the lip in comparison with epithelioma of the skin. And yet this interesting and weighty matter has received very little attention from either dermatologists or surgeons.

The other patient whom I refer to as having consulted me on the same day as the one whose history has just been related, presented

PLATE IV.—To Illustrate Article on Seborrhœa of the Lower Lip and Its Relationship to Epithelioma, by Dr. DOUGLASS W. MONTGOMERY.



Fig. 1.

Shows lip slightly everted. The lesion on the left of the median line (the patient's left) is the corneous one.





also a most interesting condition. He applied for treatment on account of a small epithelioma that had recently developed on the left side of the nose, and it was noticed that he had a vertical scar of the lower lip to the left of the median line, the result, he said, of the removal of a cancer several years before. His face was seborrhœic and, as before mentioned, he had an epithelioma on the right side of his nose. On casual examination the lip looked in excellent condition, but on examining it more narrowly with a low-power lens, a furrow could be seen just to the left of the scar, the trough of which was filled with granular, seborrhœic crusts. An epithelioma arising under this crust might readily be considered as a recurrence. In reality it would be a new epithelioma, developing as the former one probably had, from the primary seborrhœic condition of the lip. The discovery of this crusting by the aid of the lens shows how useful this instrument is in examining lesions of the skin or mucous membranes. For lack of such examination I have seen a surgeon, in extirpating a cancer, cut squarely through an epitheliomatous nodule and then sew up the wound. This is undoubtedly one of the reasons why the knife has such a bad reputation in these affections, for if a curette had been used this nodule would not have escaped extirpation with the other friable tissue.

Seborrhœic lesions in their early stages almost always yield readily to treatment either with trichloracetic acid or with the X-rays. Neglect of this seborrhœic condition is deplorable, because attention to it may often prevent the occurrence of cancer. And if a cancer has appeared, and has been removed by operation, attention to the seborrhœic crusts may prevent a new one forming.

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## LINGUAL AND ORAL MUCOUS MEMBRANE DISTURBANCES IN PERNICIOUS ANÆMIA.

By FRED WISE, M.D., New York.

Chief of the Dermatological Clinic, Beth Israel Hospital.

**O**F pernicious anæmia as a disease-entity much has been written since Addison's contribution which appeared in 1855 in the introduction to his work, "On the Constitutional and Local Effects of Disease of the Suprarenal Capsules."<sup>1</sup> Excellent monographs and theses abound in the literature on the subject,

<sup>1</sup> WILLIAM HUNTER, "Pernicious Anæmia," London, 1901.

dealing with every phase of the obscure malady, with its varied and oftentimes complex morbid processes, which may involve every organ in the body and may give rise to the diversified subjective and objective phenomena characteristic of the disease. Especially copious is the literature pertaining to the toxæmic, the hæmolytic and the gastro-intestinal aspects of this type of anæmia—contributions dealing with the various pathological changes evidenced principally in the blood and the blood-forming organs and tissues, in the gastro-intestinal system and in the central nervous system.

The symptom-complex induced by these morbid changes has been so minutely described by a host of able observers that the writer approaches with considerable hesitancy a field already thoroughly explored by the internist and the pathologist. Yet the unfortunate advent of a case which has—at least tentatively—been diagnosed as pernicious anæmia, occurring in a member of the writer's family, has given him the opportunity to study at close range, so to speak, certain peculiar disturbances affecting the tongue and the buccal mucous membranes—disturbances which show such a radical departure, clinically, from those ordinarily observed in the practice of the dermatologist, that it may not be amiss to emphasize them and to dwell upon their significance as diagnostic factors.

The mucous membranes of the mouth and tongue are subject to changes in a great variety of diseases, both local and general. When one is confronted with the list of these conditions, printed black on white, as is the formidable array of disease-conditions at the end of a recent article by Baker,<sup>2</sup> one begins to realize that the proportionate number of oral lesions seen by the dermatologist must be extremely small. This circumstance is explained by the fact that in the great majority of the constitutional diseases with which oral mucous membrane lesions are associated, the latter appear in the later stages of the affliction, when their relation to the general disease is readily recognized by the attending physician. In pernicious anæmia, however, it not infrequently occurs that the very first subjective and objective trouble of which the patient complains is referred to the mouth and tongue. In a recent paper Schamberg<sup>3</sup> calls attention to the oral manifestations of various diseases and speaks of several instances in which he was led to suspect the ex-

<sup>2</sup> BAKER, E. H. "The Natural Field of Dentistry." *Dental Cosmos*, 1912, liv, p. 694.

<sup>3</sup> SCHAMBERG. "The Reciprocal Influences of Morbid Conditions of the Mouth, Jaws and General Economy." *Jour. Amer. Med. Assn.*, Nov. 23, 1912.

istence of leukæmia by the presence of the mouth lesions in these patients, his suspicion being verified by the microscope. This entire subject is one which, as Baker says, has received comparatively meager attention in both teaching and practice. In the various text-books on dermatology the subject is barely mentioned; while of a half-dozen works on the mouth and tongue, but one, that of von Mikulicz and Kuemmel,<sup>4</sup> devotes a paragraph to the oral manifestations of pernicious anæmia.

Briefly stated, the most salient characteristics of the disease are the occurrence of a group of symptoms referable to the gastrointestinal tract (which includes the mouth and tongue), the central nervous system and the blood. In the typical cases there occur, also, the concomitant symptoms of pallor, muscular weakness, dyspnœa, dizziness and palpitation. The existence of this syndrome may justify at least a tentative diagnosis of pernicious anæmia, which may then be verified by the microscopical examination of the blood. I say *may* be verified—for the literature contains examples of cases in which the clinical picture is one of pernicious anæmia and yet the characteristic blood changes which one expects to find are—to use a homely expression—conspicuous by their absence, at least for the time being. Such, in fact, may very well be the circumstance in the case herein described; for, as will be seen later, three successive examinations of the patient's blood failed to reveal anything of more importance than poikilocytosis. Of this peculiarity Cabot<sup>5</sup> has to say: "There are undoubtedly periods in the course of most cases of pernicious anæmia in which the diagnosis can not be made by the blood examination alone. The same can be said of malaria. But it is further true that the condition of the blood in a case of pernicious anæmia may vary a great deal from day to day, so that it is unsafe to draw conclusions from a single examination; for example, I have repeatedly failed to find any megaloblasts at the first examination, yet had no difficulty in discovering them a day or two later." Whether we are dealing, in my case, with a pernicious anæmia exhibiting no characteristic changes in the blood at the time of the examinations, or whether subsequent observation will place the diagnosis in the category of the secondary anæmias, is still an undecided point. Against the theory of secondary anæmia is the presence of marked spinal cord changes (Bastianelli<sup>6</sup>) which appear in our patient.

<sup>4</sup> VON MIKULICZ und KUEMMEL. "Krankheiten des Mundes," Jena, 1909.

<sup>5</sup> CABOT. Pernicious Anæmia; a Study of 110 Cases, *Am. Jour. Med. Sci.*, Aug., 1900.

<sup>6</sup> BASTIANELLI. *Bullettino della R. Accademia Medica di Roma*, 1896.

We must therefore bear in mind that, in spite of the presence of the lingual and oral, the gastro-intestinal and the spinal cord manifestations which obtain in this case, the absence of the blood changes existing in pernicious anæmia leave room for doubt as to the true nature of the malady. In connection with this point, the views expressed by Ernst Grawitz<sup>7</sup> are very interesting. He says that, although theoretically the various anæmias are to be differentiated by their respective blood pictures, from a practical point of view such a basis for their differentiation is, in his opinion, not useful. Grawitz does not attach nearly as much importance to the blood findings in pernicious anæmia as do the majority of authors; he believes that the morbid processes occurring in tissues other than the blood are to be looked upon with the same amount of respect as those taking place in the blood itself; and that the main difference between pernicious anæmia and other forms of anæmia lies, not in the variety of the blood findings and in the diversity of ætiological factors, but rather in the clinical course of the disease. According to Grawitz, a "pathognomonic" blood condition in pernicious anæmia does not exist.

As to the spinal cord changes in the disease, Billings<sup>8</sup> refers to a number of authors who have reported cases and described symptoms, as well as gross and histologic changes found usually in diseases associated with pernicious anæmia, but also in conditions in which the blood differed from that of pernicious anæmia. In his opinion, the spinal cord changes which occur in conditions without pernicious anæmia do not differ essentially from those of pernicious anæmia. Putnam and Taylor<sup>9</sup> have made studies of a number of conditions associated with spinal cord changes, which clinically at least, bear a strong resemblance to pernicious anæmia and which were probably diagnosed as such in earlier days, when the study of blood changes was not as advanced as it is to-day.

Gastro-intestinal disturbances—sometimes mild and evanescent, sometimes severe and lasting—are the rule in pernicious anæmia. As Cabot (*l.c.*) emphasizes in his report of 110 cases of the disease, the symptoms are usually paroxysmal in character—they come and go at irregular intervals and with intervening periods of well-being, apparently uninfluenced by medication or other treatment. Whether they are the result, or the cause of the disease, is a mooted ques-

<sup>7</sup> GRAWITZ, E. *Klinische Pathologie des Blutes*, Leipzig, 1906.

<sup>8</sup> BILLINGS. *The Changes in the Spinal Cord and Medulla in Pernicious Anæmia*, The Shattuck Lecture, Chicago, 1902.

<sup>9</sup> PUTNAM. *Jour. Nerv. and Mental Dis.*, Feb., 1891. PUTNAM and TAYLOR, *Ibid.*, Jan. and Feb., 1901.

tion; certain it is, that in the patient under the writer's observation, the gastro-intestinal disturbances antedated by many months the appearance of the symptoms proper of the present trouble. With reference to this question Cabot (*l.c.*) says: "None of the causes as yet adduced to explain pernicious anæmia seems to me satisfactory, although I think there is a good deal of evidence for believing that it is due to a poison absorbed from the gastro-intestinal tract and exerting its deleterious effect upon the blood, the heart, the spinal cord and the gastro-intestinal tract itself. Among these changes I am by no means sure that the anæmia is the most important, and I regard the others as coördinate with it rather than as resulting from it. This view is, to my mind, supported by the fact that the severity of the clinical symptoms is not by any means proportional to the degree of blood impoverishment."

Hunter, in the preface of his book, states that his conclusions "show the disease to be not merely a special form of anæmia, but a definite—and in regard to mode of onset and site of infection—a well characterized, chronic, infective disease, localized to the alimentary tract—one in which long-lasting sepsis, oral and gastric, plays an essential and important antecedent and concurrent part." What interests us as dermatologists (and perhaps also as stomatologists) mostly, however, are Hunter's significant words respecting diagnosis: "As regards diagnosis—the disease can, even in its early stages, if not easily, yet with certainty, be diagnosed . . . by having regard to: (1) its mode of onset with special reference to its *oral and gastric* symptoms; (2) the degree of blood change out of all proportion to that caused by organic or wasting disease, even when severe; (3) the characteristic group of symptoms I have described."

To further discuss the probable or possible ætiological factors in the causation of pernicious anæmia would be merely a matter of quoting from the publications of numerous observers, the writer himself having had no previous experience with the malady, to enable him to offer personal opinions on this profound subject. Before dismissing the subject, however, mention must be made of the possible ætiological relationship between the incidence of pernicious anæmia and the occurrence of dental cario-necrosis, gingivitis, stomatitis and glossitis. To this subject, Hunter devotes many chapters of his learned treatise and he concludes that: "The chief source of infection is oral sepsis arising in connection with long-continued and neglected cario-necrotic conditions of the teeth. The effects are *chronic infective lesions of the mouth* and stomach or intestine,

which heal up in one part, only to spread to another and which cause, in time, deeper seated changes, *e.g.*, ulcers of the mouth, chronic glossitis and atrophic changes in the tongue; chronic gastritis with atrophy of the glands." But in a great number of reported instances of pernicious anæmia with mucous membrane disturbances in the oral cavity, the question of dental lesions seems to play no rôle whatever; that is, the mouth is free of carionecrosis; in these cases, Hunter believes that the infection may, possibly, arise from other causes, such as exposure to drain poisons.

With the foregoing introductory remarks, we are prepared to consider the matter in hand, namely, the phenomena referable to the mucous membranes of the tongue, buccal cavity and pharynx. The patient who forms the subject of this paper drew the attention of his physicians, *many months before the diagnosis of pernicious anæmia was considered*, to discomfort, sometimes amounting to pain, on the tongue and the oral mucous membranes; and for a long period the patient's general condition, in every other respect, was so good that no suspicion was entertained of the existence of any systemic disease of which these symptoms formed a part, least of all pernicious anæmia. It is this *early manifestation of oral symptoms* which the writer considers of especial interest to the dermatologist.

#### CASE REPORT.

**FAMILY HISTORY.**—The relevant points in the patient's history are as follows: The patient is a male, aged 62, a retired merchant. His family history is negative. He has had four children, three of whom are living and healthy, one dying in early infancy of scarlet fever.

**PERSONAL HISTORY.**—No syphilitic or venereal infection; he is a moderate smoker and rarely uses alcohol. Until about 1900, his health had been exceptionally good. About eleven or twelve years ago he began to complain of gastric distress and consulted a specialist, who prescribed gastric lavage, which seemed to relieve him for the time being. About 1907 he had a return of his stomach trouble; the diagnosis was "catarrh of the stomach" and lavage was again instituted, which, together with internal medication and regulation of diet, resulted in temporary relief. The bowels moved naturally and regularly. His appetite had always been excellent. The patient appeared to be in very fair health and rode his bicycle almost daily. His urine was normal. His blood pressure was usually somewhat above normal. For a matter of about fifteen years preceding his gastric disturbances, the patient had been in the habit of eating rapidly, bolting his food with very little mastication; even in drinking water, he emptied his glass much more rapidly than the average man. From 1907 to 1910 his general health continued to be good. Now and then he had attacks of bulimia and subsequent indigestion which seemed to be relieved by ordinary measures. The habit of rapid swallowing and incomplete mastication of food persisted. At about this period his teeth began to give him trouble, although there were no marked evidences of dental caries and he never was neglectful of his oral

hygiene. A number of teeth were extracted and he began wearing a plate which seemed to cause him no inconvenience.

About one and a half years ago the patient began to complain, rather vaguely at first, of a feeling of discomfort in the mouth and on the tongue. He had sensations of different kinds which he described sometimes as burning, sometimes as painful, at other times as a persistent metallic taste, affecting chiefly the tongue. These disturbances were not constant; they came and went, persisting from several days to several weeks, then disappearing suddenly, only to reappear later. Smoking was prohibited and the ingestion of spices and condiments and of hot or very cold victuals was stopped; in fact, as they increased the discomfort, he stopped these of his own accord. But during the intervals between these attacks, he could smoke, or partake of spicy dishes with impunity; indulgence did not seem to bring on a fresh attack. He complained very little of gastric troubles at this time and there seemed to be no direct relation between the advent of the oral symptoms and the gastric disturbances, when the latter were present. His bowels were regular; the urine was normal; the pulse was full and strong; the blood pressure at times was somewhat raised, but usually normal. There was no change in the color of his skin. His appetite was usually good, at times capricious; now and then he would complain of akoria—absence of the feeling of satiety after a normal meal. A feeling of hunger seemed to give rise to some distress, which, however, disappeared after the ingestion of food. Occasionally he complained of tinnitus and vague pains in the legs and arms. A physical examination performed by Dr. J. J. Asch proved the patient to be a strong, well-nourished man, with no organic lesions. Aside from the mouth disturbances, he looked well and felt well.

Examination of the mouth revealed a mild superficial glossitis, affecting chiefly the anterior part of the tongue at its edge, which was denuded of epithelium. The dorsum of the tongue at times seemed normal, at other times it appeared smooth, shiny or glazed and somewhat pale. At each examination the appearance varied—one day nothing abnormal could be discerned, another day there would be evidences of more or less inflammatory reaction. The buccal mucous membrane on several occasions presented a diffuse hyperæmia, which affected, also, the pharyngeal mucous membrane and involved the entire oral cavity, including the oral surface of the lips. The exposed mucous membrane of the lips did not share in this hyperæmia, but the patient frequently complained of dryness of the lips. At all stages, the subjective symptoms seemed to be far more severe than the appearance of the mucous membranes would lead one to believe. Very often the interior of the mouth looked and felt normal. Several examinations of the oral cavity, made by dentists and laryngologists, revealed nothing of interest. The condition of the teeth and gums was good. *Neither local applications or mouth washes, nor internal medication seemed to exert the slightest influence upon the oral affection when it was present.*

Shortly after the onset of the mouth troubles, the patient began to complain of a persistent sensation of cold in both feet, the right more than the left. This sensation was present in warm weather, but not to the same extent as when the temperature was low. Gradually these sensations involved the lower limbs as far up as the knees, causing considerable discomfort. He complained of marked hyperæsthesia of the skin adjacent to the plantar surface of the toes—so much so that he was in the habit of inserting a layer of cotton into the furrow formed by the ball of the foot and the under surface of the toes. The gait was normal. The patient now and then showed evidences of mental anxiety as to his condition, but on the whole he did not give one the impression of being a sick man. He continued to eat well and to sleep well. His chief complaints were: the discomfort and pain in the mouth, the coldness and numbness of the feet and legs and the occasional attacks of indigestion. These manifestations occurred *periodically*.

In the month of October the skin began to assume an unhealthy appearance. On different occasions the patient would look pale or yellowish or slightly bronzed. These changes occurred only in the face and on the neck. The skin of the rest of the body, including the bare scalp, showed no changes in color. The variations in facial color, from day to day, were remarkable; on some days there would be a distinct icteroid pallor, on another day the patient seemed to have regained a perfectly healthy complexion. The same variability and periodicity manifested itself in the oral disturbances; for example, between the 15th and the 26th of November, the patient complained constantly of painful and burning sensations of the tongue and lips; the mucous membrane of the sides and edges of the tongue was inflamed, the blood vessels were congested, with scattered patches on the sides of the tongue resembling submucous hæmorrhages; the buccal and pharyngeal mucous membranes showed a diffuse erythema. Local treatment had no influence on the condition, one way or another. On the 27th of November the patient got out of bed after a night's rest and volunteered the statement that his tongue and mouth felt well. With the exception of a somewhat glazed appearance of the dorsum of the tongue, no sign of the previous night's inflammatory manifestations could be seen. There seemed to be no coincidental relation between the changes in the mucous membranes and the changes in the color of the skin.

With a single exception, repeated examinations of the urine were negative; early in October two successive specimens revealed a trace of sugar, which disappeared on the following day and has not returned since. On one occasion, early in November, the patient had an attack of vomiting, not preceded by nausea. During the last few months he has noticed that his muscles have become weak and flabby; there has been a loss of about fifteen pounds in weight during the last six months. No rise of temperature has been observed.

STATUS PRÆSENS.—Nov. 11, 1912, the patient appears to be well nourished, the superficial fat well preserved. The skin of the body has a normal tint; the face presents a marked icteroid pallor, with a somewhat tanned or bronzed appearance at the temples; the conjunctivæ are anæmic; the lips are normal in color, but appear dry. The muscles are soft and flabby, but not markedly so for a man of sixty-two, leading a sedentary life. The temperature is normal. The urine shows an excess of indican, but otherwise is normal. The pulse is soft and compressible, the blood pressure 90. The abdominal and thoracic viscera appear to be normal. The mucous membranes of the tongue and oral cavity present the active inflammatory symptoms described above. The patient complains of coldness and paræsthesia of the feet and legs, tingling of the finger tips, weakness, insomnia and the mouth disturbances.

The stools were examined for the presence of intestinal parasites (by Dr. J. J. Hertz), with a negative result.

The blood (examined by Dr. M. A. Rothschild) showed: red blood cells, 3,400,000; white blood cells, 9,200; hæmoglobin, 82%; color index, 1.1+; poikilocytosis and anisocytosis present, no nucleated forms were found; megalocytes were present. Nov. 13, 1912 (examined by Dr. J. J. Hertz): red blood cells, 3,680,000; white blood cells, 8,000; hæmoglobin, 85%; color index, 1.1+. Differential count: polynuclear neutrophiles, 69%; polynuclear eosinophiles, 3%; large lymphocytes, 23%; small lymphocytes, 3%; mononuclears, 2%. No abnormal white cells; no nucleated red cells; poikilocytosis present. Blood pressure: systolic, 120; diastolic, 90. Nov. 30, 1912: red blood cells, 3,460,000; white blood cells, 9,200; hæmoglobin, 80%; color index, 1.1+. Polynuclear neutrophiles, 68%; no abnormal white cells; no nucleated reds; poikilocytosis present.

The nervous system (examined by Dr. Foster Kennedy, Dec. 6, 1912): Pupils equal, central, regular in outline; react to light and on convergence. Ocular movements normal. No nystagmus, strabismus or diplopia. Fifth nerve normal. Tongue protruded normally. No cranial nerve changes are present. No atrophy



or ataxia of the upper extremities. All movements present. Tremor absent. Supinator reflex rather brisk. No sensory changes in the upper extremities. Lower extremities: deep reflexes absent, even on reinforcement; plantar reflexes: right, extensor (Babinsky); left, flexor. Abdominal and cremasteric reflexes are normal. Diminished postural sense in the toes of both feet; clearly some slight diminution to pain below both knees. No loss of deep muscle pain sense. Marked Rombergism present. (Dr. Alfred Braun reports no changes in the fundus of the eyes.)

The neurological findings point to a subacute combined sclerosis (postero-lateral) of the spinal cord.

Parenthetically it may be remarked that in the experience of Dr. Kennedy cases of this type are not infrequent in England; that is, cases exhibiting the usual clinical picture of a pernicious anæmia, without having the characteristic blood changes.

Passing references to lesions of the oral and lingual mucous membranes are to be found in nearly all reports dealing with pernicious anæmia. In some, the subject is dismissed with a few words; for example, Stockton,<sup>10</sup> in his report of twenty-five cases of pernicious anæmia and its relation to gastric digestion, says, "In almost all cases the tongue was strikingly pale, usually showing a loss of epithelium and, therefore, not coated or but slightly so." Max Koch,<sup>11</sup> in his paper on the gastro-intestinal changes in pernicious anæmia, in summing up his findings in five cases, remarks that "Attention must be called to the fact that with one exception we found a smooth atrophy of the tongue in all our cases." He designates the condition as "atrophia lævis baseos lingue" in one instance, and as "atrophia papillarum baseos lingue" in another. In two of his five cases he also records the condition of "cicatrices pharyngis." Hamel,<sup>12</sup> in his report of a noteworthy case of the disease, speaks of the non-existence of lesions on the tongue and the oral mucous membranes. Einhorn<sup>13</sup> reports a number of cases without giving the tongue more than passing mention. Hueter,<sup>14</sup> on the other hand, devotes considerable space in his work on the manifestations of the disease upon the visible mucous membranes, especially those of the tongue and buccal cavity. He says, in this connection, in the chapter on the prevalence and significance of oral

<sup>10</sup> STOCKTON, C. G. Pernicious Anæmia and its Relation to Gastric Digestion, Based on Twenty-five Cases. *Jour. Amer. Med. Assn.*, July 16, 1904.

<sup>11</sup> KOCH, MAX, Ueber Veränderungen am Magen und Darm bei der Pernicioesen Anaemie, *Monat. Diss.*, May 13, 1898, Geitel Bros., Magdeburg.

<sup>12</sup> HAMEL, Ueber Einen Bemerkenswerthen Fall von Pernicioesen Anaemie, *Deutsch. med. Woch.*, 1902, No. 16-17.

<sup>13</sup> EINHORN, Remarks on Achylia Gastrica and Pernicious Anæmia, *Med. Rec.*, Feb. 28, 1903.

<sup>14</sup> MUELLER, Die Progressive Pernicioese Anaemie, Zuerich, 1877.

sepsis: "The result (of my observations) has been to draw my attention to the following points: . . . . *The occurrence of glossitis and stomatitis among the first signs of the disease*, sometimes as the first subjective and objective trouble." It will be noted that the history of the case herein related is strongly corroborative of this statement. When we consider that the lingual symptoms may appear as the very first indications of the malady, even before the blood picture shows any characteristic changes, the importance of recognizing the significance of these oral disturbances will be appreciated. In seven out of twelve cases, Hunter records "conditions of glossitis or stomatitis, characterized by great tenderness, presence of sores, or salivation. In four of these cases, the condition of the mouth formed one of the chief subjects of complaint on the part of the patient. In nearly all cases the morbid condition of the mouth seemed to be connected with the origin of the disease; either preceding the weakness or being most troublesome in the early stages of the disease. In other words, the condition was not simply the result of weakness; on the contrary, it was most marked at the commencement when the anæmia was slight and in each case became less marked when the anæmia increased. In two cases, the patients themselves connected the onset of their weakness in some mysterious way with the stomatitis. As one of the patients strikingly put it, 'the trouble of the mouth seemed to go right through him.'" It is a noteworthy fact that in the case which forms the subject of this report, the oral disturbances showed a decided diminution both in frequency and in severity, as the pallor of the skin increased. Mueller<sup>14</sup> also emphasizes the importance of this condition and states that it seems to resist local treatment, that it disappears spontaneously only to recur without apparent cause, and that it occasions great discomfort to the patient, especially when eating and drinking. Among other authors who have called special attention to oral disturbances are Laache,<sup>15</sup> Eichhorst,<sup>16</sup> Hale White,<sup>17</sup> McPhedron,<sup>18</sup> Hopkins,<sup>19</sup> and Douglas-Powell.<sup>20</sup>

To the clinician, probably the most striking feature of the oral disturbances lies in the *periodicity of the attacks of stomatitis* and in the fact that they come and go, independent of treatment and apparently independent of other existing symptoms. This peculiarity

<sup>14</sup> LAACHE, *Die Anaemie*, Christiania, 1883.

<sup>15</sup> EICHHORST, *Die Progressive Pernicioese Anaemie*, Leipsic, 1878.

<sup>16</sup> WHITE, HALE, *Guy's Hosp. Rep.*, 1890.

<sup>17</sup> MCPHEDRON, *Med. News*, Phila., 1890, p. 367.

<sup>18</sup> HOPKINS, *Guy's Hosp. Rep.*, 1895.

<sup>19</sup> DOUGLAS-POWELL, *Clin. Jour.*, London, 1893, ii.

in itself forms an important point in differentiating the condition from other mucous membrane lesions of the mouth, which so often occur in the practice of the dermatologist. In the case herein reported, the variability—one might say the capriciousness—of these oral symptoms was indeed remarkable; frequently weeks and months elapsed during which the patient seemed to forget all about his tongue; then again, periods of great discomfort, varying in time from a few days to several weeks, would intervene, during which the oral troubles seemed to be the chief complaint. During the periods of well-being, examination of the tongue revealed either a normal mucous membrane, or a very slight superficial glossitis such as often accompanies an attack of indigestion; in the presence of active attacks, the lingual mucous membrane had a smooth, glazed, faintly atrophic appearance, the anterior edges and tip showing a beefy-red inflammatory surface; while the buccal and pharyngeal mucous membranes showed a diffuse hyperæmia. The mucous membrane of the floor of the mouth at times seemed swollen and œdematous.

As to the nature of these disturbances, most observers are agreed on one point, namely, that the lesions of the mouth and tongue are induced by the same morbid processes as those which occasion the morbid changes found at autopsy in the walls of the stomach and intestines. Hunter is disposed "to regard the gastric mucosa as the seat, not only of the primary infection, but also of the subsequent development of the infection, the affection of the tongue noted during life being probably of the same nature as that of the stomach."

Bearing in mind the fact that in my case it was the lingual disturbances which, at least subjectively, ushered in the succeeding train of symptoms, one may be justified in assuming that cases of this kind occasionally seek relief, first of all, at the hands of the dermatologist: a certain proportion of patients in any large dermatological clinic is composed of those seeking advice for oral and lingual mucous membrane troubles: and, though pernicious anæmia is a rare disease (in this country), the existence of cases of this type must be borne in mind. Had the writer been more conversant with the early signs and symptoms of the disease, his suspicions as to the nature of the malady would no doubt have been aroused, at least to the extent of searching carefully for the existence of other morbid processes, especially those relating to changes in the blood; in short, the correct diagnosis and the causation of the oral troubles may have been revealed, perhaps long before the subsequent signs of spinal cord involvement had made themselves manifest. If nothing else, an earlier diagnosis would at least have meant the

earlier institution of the proper medication and régime of the patient. It must be noted, however, that the diagnosis may be impossible, as Cabot (*l.c.*) says, in the early stages of the disease and during remissions; the blood may show no characteristic changes during these periods.

In conclusion, I desire to extend my thanks to Drs. Asch, Rothschild, Hertz, Kennedy and H. Weinstein for their kindly interest in my patient.

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## SOCIETY TRANSACTIONS

### NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, October 22, 1912.

JEROME KINGSBURY, M.D., *President.*

**Lues with Peculiar Lesions.** Presented by DR. TRIMBLE for DR. FORDYCE.

The patient was a woman, aged seventy. The lesions were located on both ears, on the scalp, the nape of the neck and the hands. The lesions on the face, neck and ears were in large plaques, dusky red in color, and covered with fine bran-like scales. They had existed for seven years, were sharply defined, and strongly resembled lupus erythematosus. The lesions on the hands were circinate, with clear centres and infiltrated borders, and were more in keeping with the diagnosis of lues. The Wassermann reaction was positive.

**Urticaria Pigmentosa.** Presented by DR. TRIMBLE for DR. FORDYCE.

The patient was a boy, six years of age. The duration of the disease was five and a half years, and it had increased in intensity. The whole body, excepting the neck and face, was covered with yellowish-brown lesions, varying in size from a small pea to a silver quarter. Some of them were quite yellow and looked very much like xanthoma. Itching was not a marked feature.

**Case for Diagnosis.** Presented by DR. TRIMBLE.

The patient was a young woman, aged twenty-eight. For four years she had had a small, dark blue tumor on the left arm near the shoulder. There were no objective symptoms, and there was no arcola around the lesion. The size was about that of a hazel-nut.

DR. JOHNSTON was inclined to think it a melanoma.

DR. DADE suggested sarcoma melanosa.

DR. ROBINSON pronounced it a probable fibro-sarcoma, but thought that a microscopical examination would be necessary for a positive diagnosis.

DR. FOX was inclined to think that the discoloration was due to hæmaturic pigmentation, and not to the black deposit of melano-sarcoma.

### Unilateral Pigmentation. Presented by DR. HOWARD FOX.

The patient, Yetta A., was a girl twelve years of age, born in the United States. The eruption was first noticed when the child was four years of age. It followed an attack of measles and first appeared upon the back of the right forearm. It had steadily increased in extent up to the present time. She then presented numerous irregular, pale yellowish-brown, smooth patches of pigmentation upon the right forearm, arm, shoulder, upper part of the right breast, and right scapular region. At first glance the patches suggested a chromophytosis.

DR. ROBINSON said that he would not like to call it a nævus in the strict sense of the term, as sections would not show nævus cells in the papillary layer.

### Case for Diagnosis. Presented by DR. WHITEHOUSE.

Emma K., aged fourteen; the mother and father were living and well. Four brothers and one sister were living. Two sisters had died in infancy of cholera infantum. There was no history of tuberculosis or of skin eruptions in the family. The patient had had measles, varicella and whooping cough. The present disease began when the patient was three years old (eleven years ago) and had never disappeared. It remained the same in summer and winter. There had never been any itching or subjective symptoms. The eruption was absolutely symmetrical, involving both upper eyelids, both surfaces of the arms and forearms, neck, axillæ, inner surfaces of the thighs and legs to the ankles, and both popliteal spaces. The eruption consisted of symmetrical, irregular-shaped patches of superficial redness, with moderate scaling, always dry and with no infiltration. On both elbows were scattered papules resembling lichen planus, and on one elbow a number were arranged along a scratch. Here they were bluish-red in color. There was blood extravasation in the lesions of the elbows and on the lower limbs. Both hands were cold and passively hyperæmic. The patient had had recurrent attacks of conjunctivitis and blepharitis.

*Histology.* A vesicle was seen below the epidermis with loss of the basal outline of the epidermis, loss of cell structure and vacuolation; an exudate over the vesicle was present. From the elbow, lesions were shown with a break in the epidermis, in which was a rather deep infiltration of small round cells.

The speaker favored a diagnosis of erythrodermies pityriasiques en plaques disséminées.

**Granuloma Fungoides.** (Two Cases.) Presented by DR. KINGSBURY.

Rosa P., a well-developed woman, thirty-nine years of age, was born in Austria and had been in this country less than three years. She was a widow, and the mother of a healthy boy five years of age. There had been no miscarriages. The family and early personal history appeared irrelevant. The disease commenced during the summer of 1910, apparently as an urticarial eruption. It first appeared on the chest and then in the axillæ, and later on the back. The arms and thighs were affected last. The eruption, which was very itchy, continued for several months, but improved considerably during the cold weather. With the return of summer, however, the condition became worse again, and the patient suffered from frequent vomiting and severe diarrhœa; the eruption increased and pruritus was intense.

In March, 1912, an operation was performed for removal of the thyroid. When before the Society, there was some exophthalmos, but the pulse was not particularly rapid. For three months after the operation, the skin affection did not trouble her much, but quite suddenly in the early part of July it became greatly aggravated and larger and more numerous lesions appeared. Some of these were elevated and infiltrated, and soon many tumors developed. These were said to have appeared very suddenly. Some of the tumors retrogressed, leaving only brownish pigmentation areas, and others ulcerated, leaving scars. All of them, at one time or another, discharged a sero-sanguineous fluid. The tumors were numerous on the trunk but comparatively few on the extremities and face, although a moderately large one developed behind the left ear. The woman was strong and active, but had lost thirteen pounds in weight during the previous two months. The scalp was comparatively free from scaling, but considerable hair had been lost. Six months before the disease began, menstruation ceased and did not appear again until July, 1912. Since that time she has had three normal periods, painless, and lasting for three to four days.

*Blood examination:* Red blood corpuscles, 4,180,000; leucocytes, 5,060; hæmaglobin, 90 per cent. *Differential count of leucocytes:* polymorphonuclears, 75 per cent.; small mononuclears, 14 per cent.; large mononuclears, 5 per cent.; transitionals, 4 per cent.; eosinophiles, 2 per cent. Wassermann reaction, negative. *Uranalysis:* Sp. gr., 1.020; albumin and glucose absent; indican, very faint trace; urea, 1.7 per cent.; phosphates, 7 per cent.; chlorates, 13 per cent.; sulphates, 1.25 per cent. Very few granular casts and few bladder epithelial cells.

Bella E., spinster, sixty years of age, was born in Ireland but had lived in this country for over forty years. Her general health had always been good except for slight attacks of rheumatism. Normal menstruation ceased with thirty-nine years of age, but for several years after, she had periodical bleeding from the nose. She was a large woman with a prominent abdomen, and before the development of the disease had weighed two hundred and fifteen pounds; but in four months she had

lost over twenty-five pounds. The eruption, which was of five months' duration, first appeared over the shins and on the calves in the form of round red patches which later became scaly. Patches then appeared on the thighs and arms, and later on the trunk. After a few months, the patches became elevated, and then developed ringlike lesions with marked infiltration; the diameter of the rings varied from one to nearly four inches. On the thighs and buttocks alone, there were probably a hundred of these lesions. Some of the circles were complete, but most of them were broken, and the patient herself had remarked their resemblance in shape to that of a horseshoe. The itching was troublesome, but at no time intense. There were no lesions on the face. The scalp was dry and scaly, and considerable hair had been lost. No mucous membrane lesions were present. Scattered over the trunk and upper extremities were numerous small angiomas. These, however, were said to have been present for many years.

*Physical examination:* A very careful and complete examination had been made by Dr. Wm. B. Boyd, and although several slight visceral lesions were detected they did not seem connected in any way with the cutaneous affection.

*Blood examination:* Red blood corpuscles, 4,200,000; leucocytes, 8,400; hæmoglobin, 90 per cent. *Differential count of leucocytes:* Polymorphonuclears, 57 per cent.; small mononuclears, 33 per cent.; large mononuclears, 1 per cent.; transitionals, 2 per cent.; eosinophiles, 5 per cent.; Wassermann reaction, negative. *Uranalysis:* Sp. gr., 1.018; albumin, faint trace; glucose, absent; indican, slightly increased; urea, 1.2 per cent.; occasional hyaline casts, a few mucous threads, and many squamous epithelia. *Biopsy:* Sections made from tissue from a lesion on the back showed a dense connective tissue stroma. This stroma was made up into very definite, dense bundles. The covering of the specimen was epithelium arranged in a definite layer. There were one or two islands of round cells and connective tissue cells in the specimen.

### **Mycosis Fungoides Treated with the Massive-Dose X-Ray Method.**

Presented by DR. MACKEE.

The patient was presented to the Society by Dr. Fordyce in April, 1912. At that time, she exhibited large erythematous plaques generalized over the body, some of which contained a developing fungoid tumor. The patient had received one X-ray treatment each week during the summer. The method consisted of applying one-half or three-quarters of a Holznecht unit to each lesion, only one plaque being treated each week. The dose was sufficient to cause a complete involution of the lesion. All the former patches had disappeared, but new lesions were constantly developing and, in addition, there was a marked swelling of the axillary and cervical glands. It appeared to be a rather malignant case.

DR. MACKEE, replying to a question, said that he thought a general "X-ray bath" in such cases would be dangerous, as the rapid and simultaneous involu-

tion of so many lesions might produce untoward effects. Dr. Johnston had suggested the possibility of leukæmia. The speaker said that he would have the patient's blood tested and report the result at the next meeting.<sup>1</sup>

**Mycosis Fungoides.** Presented by DR. HOWARD FOX.

The patient, Guy S., was a man forty-seven years of age and born in the United States. He was married and the father of two apparently healthy children. He had suffered from the usual diseases of childhood. At the age of twenty, he first noticed an eruption upon the elbows, presenting white silvery scales. Later this involved the knees and other parts of the body, and on two occasions appeared as a general eruption, lasting several months. The eruption had been pronounced psoriasis by a number of well-known dermatologists. About two years ago a change in the lesions occurred. The scales disappeared, the spots became darker in color and somewhat elevated, and new ones appeared. There had never been any itching whatever.

The eruption consisted of a large number of macules and nodules on a lean ham color, suggesting that of syphilis. It was very profuse, and principally involved the trunk, arms and thighs. The majority of the lesions were not elevated and showed little or no infiltration. Some of them had previously been elevated and had disappeared under the X-ray treatment, given by Dr. Stewart at the German Hospital. The forehead showed the remains of a large lesion that had been removed by X-ray. This lesion had shown more than any other, the tendency to tumor formation. There had never been any ulceration. The Wassermann test was negative. The urine showed nothing abnormal. A blood examination showed 4,896,000 red cells; 7,000 white cells; and 85 per cent. of hæmaglobin. A differential leucocyte count gave 74 per cent. of polynuclears, 13 per cent. of small lymphocytes, 5 per cent. of large lymphocytes and 8 per cent. of eosinophiles.

The clinical diagnosis of mycosis fungoides was confirmed by a histological examination.

DR. SHERWELL said that the use of the X-ray with moderate and fairly frequent exposures was much to be commended in these cases. Sometimes it gave a very decided alleviation for a prolonged period of time. In one of such cases in his practice this treatment had been very helpful.

DR. TRIMBLE agreed with the diagnosis in this group of cases, and called attention to the stage of the process shown in one of Dr. Kingsbury's cases. It was neither the premycotic nor the fungoid stage, but seemed to be between the two. It was most unusual to see a case of mycosis in this intermediate stage.

**Lupus Erythematosus Showing Effect of Treatment.** Presented by  
DR. TRIMBLE.

The patient was a young woman, twenty-eight years of age. She had had the condition for about seven years. The lesions were very

<sup>1</sup> The blood was tested by Dr. Mandel and was shown to be normal.



peculiar in configuration, at first making almost a complete circle about the chin. The case had been shown to the Society previously on account of this peculiar configuration. It was presented again in order to show the effect of treatment by the application of iodine externally and quinine internally. A photograph was also shown.

DR. SHERWELL said that the case showed a remarkable result, so wonderful that doubtless the treatment was advisable. He would try similar treatment on a case himself, never yet having done so.

DR. BRONSON said that the scarring was not at all like the usual lupus erythematosus scarring. It was too deep.

**Lymphoma of Lip.** Presented by DR. TRIMBLE.

The patient was a young woman, sixteen years of age, born in the United States. The condition had been present for four years. According to her statement, it came on rather suddenly. The upper lip was large and protruding. Dr. Trimble said that it seemed to be a case of lymph stasis, and that he had brought the patient before the Society thinking that perhaps some surgical operation might be done to remedy the defect.

**Lymphangioma Circumscriptum.** Presented by DR. KINGSBURY.

The patient was a strong, well-developed school girl, twelve years of age. The growth covered practically the whole of the left buttock, and was noteworthy on account of its extent and well-defined characteristics.

**Lichen Planus.** Presented by DR. KINGSBURY.

The patient was a married woman, twenty-three years of age. The eruption was very extensive and was of three months' duration. The flexor aspects of the forearms were the seat of the greater number of the lesions, but typical papules were found scattered over the whole body, including even the chin and forehead. The oral mucosa and lips were also affected. On the back were several factitious, annular lesions which had been produced by the rotary incision of a large cutaneous punch.

**Hyperidrosis Cured by the Massive-Dose X-Ray Method.** Presented by DR. MACKEE.

The patient was a girl of eighteen years who, in addition to having a hyperidrosis of the hands, was also afflicted with epidermolysis bullosa. She was presented to the Society in April, 1912, by Dr. Fordyce. In June, 1912, she had received an X-ray dose of three Holzknecht units, applied to the left palm. This had resulted in complete cessation of sweating of the left hand, while the right hand presented its original condition. The speaker directed attention to the absence of visible

atrophy as a result of the treatment. To cure excessive sweating, it was necessary to apply three or four units. It was not advisable, the speaker said, to apply such a large dose at one sitting, on account of the severe reaction that followed. The three units should be divided into two or three treatments at intervals of three or four weeks. This method was very efficacious in overcoming the excessive sweating of the armpits, as well as the disagreeable odor that so often accompanies this uncomfortable condition.

**Papulo-Necrotic Tuberculide.** Presented by DR. KINGSBURY.

The patient was a schoolgirl, fifteen years of age. She was fairly well developed, but her circulation was poor and she was anæmic and constipated. The first lesions appeared on the back of the hands about one year ago, and a few months later the forearms and legs became affected. While the case was a mild one, the lesions in various stages of development were quite typical.

**Case for Diagnosis.** Presented by DR. TRIMBLE.

This patient was a woman, thirty-two years of age. The lesion was a small straw-colored one in the centre of the cartilaginous portion of the nose. It was elevated, and not ulcerated, and had been present for three years. There were no subjective symptoms.

DR. ROBINSON did not think it was a case of epithelioma. The growth probably started in the follicle wall, and not from the epidermis proper. He thought that with a squamous celled epithelioma it would have to break down at an early period, and on that ground alone he would exclude a malignant epitheliomatous growth.

DR. HOWARD FOX said that clinically it seemed to be an epithelioma.

DR. DADE thought it was a typical rodent type of epithelioma.

DR. WHITEHOUSE favored the diagnosis of epithelioma. He had seen cases go on in that curious stage for years before breaking down.

**Syphilis.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a girl, nineteen years of age; a stenographer by occupation, and a native of the United States. Three years ago a painless swelling occurred on the outer surface of the left leg, midway between the knee and the ankle. This underwent ulceration, and finally healed spontaneously; but in the meantime another and similar lesion had appeared in close proximity to the former ulcer. When presented to the Society, there was an indolent, palm-sized ulcer, which had been formed by the coalescence of several small ulcers. There was a scallop-shaped margin, considerable pigmentation, and a few outlying scars, the remains of former lesions. There had been considerable pain during the past year. On the posterior surface of both legs, below the knees, there were a few scattered, rather superficial papules, presenting necrotic centres.

There was no history of syphilis. The von Pirquet reaction was positive and the Wassermann test was negative. The lesions had not responded to the internal administration of large doses of mercury and potassium iodide. Although the clinical appearance was that of syphilis, the speaker thought that Bazin's disease should be considered. The patient would be given the benefit of more vigorous antisypilitic treatment, and the result would be reported to the members at the next meeting of the Society.\*

Dr. Fox thought that the scar on the upper third of the leg corroborated the diagnosis of syphilis.

The diagnosis of syphilis was generally accepted.

**Congenital Alopecia, Scleroderma, Infantilism.** Presented by Dr. HOWARD FOX.

The patient, John B., was forty years of age, born in Russia. Since birth, his entire hair of the scalp had been very thin and spare. During the past ten years he had, in addition, acquired an ordinary senile baldness. The eyebrows and beard were practically absent, and the axillary and pubic hairs were very short and sparse. The downy hairs were practically absent. The entire surfaces of both feet and ankles presented a marked scleroderma, which had first appeared ten years previously. On the bony prominences a half dozen ulcers had formed. There were no symptoms of Raynaud's disease.

The patient showed a general condition of infantilism. He weighed only ninety-four pounds, and was generally undeveloped. The voice was feminine in character, the testicles small. The Wassermann test was negative. Stereo-radiographic examination by Dr. Stewart revealed a very small pituitary fossa. The sella turcica seemed thickened and club shaped. The sphenoid cells were perfectly clear.

**Gummatous Syphilide Resisting Treatment by Salvarsan.** Presented by Dr. HOWARD FOX.

The patient, Isidor N., was a colored man, aged twenty-two, born in the United States. He gave a history of a genital sore which occurred in September, 1911. A month later, ulcers developed about the perineal region and inner aspect of the thighs. The eruption was evidently considered syphilitic, as he was treated at Bellevue Hospital by an intravenous injection of salvarsan. He was later treated in the service of Dr. Fordyce at the City Hospital from May 28th to June 11th, with four intravenous injections of salvarsan. He had also been given sixteen intramuscular injections of mercury at Bellevue Hospital, following the first dose of salvarsan. He had not only failed to improve, but had

<sup>1</sup> All the lesions healed under large doses of salicylate of mercury, intramuscularly administered, and the ingestion of potassium iodide.

actually grown worse under treatment. When first seen at the Harlem Hospital, he had what appeared to be an ulcerating gummatous syphilide, showing a typical serpiginous character. As, however, the case had not responded to either salvarsan or mercury, and as the Wassermann reaction had been negative on five different occasions, a doubt as to the diagnosis arose. A biopsy was accordingly made, and sections stained for blastomycetes. None, however, were found. Under potassium iodide (about 3,000 grains) given in a period of six weeks, the lesions cleared up completely.

DR. MACKEE said that he had seen the patient in the active stage of the eruption, and that clinically it presented the picture of syphilis; but the fact that it had cleared up under iodine alone and had made no response to salvarsan suggested that it was some disease other than syphilis.

DR. WINFIELD said that he had that day seen a patient who had received salvarsan in May and again in July; the man had returned to the hospital suffering from multiple skin gummata. He was in the active stage when he received the first injection.

### **Syphilis.** Presented by DR. WHITEHOUSE.

The patient was a male, aged twenty-three, a gas meter repairer by occupation. The man was the youngest of thirteen children, all of whom were dead but four. The father and mother were well; no other member of the family was similarly affected; there was no history of tuberculosis in the family: the patient denied having had a chancre. As a child he was always sick and going to the hospital, and the present trouble dated from very early childhood. The right foot was enormously enlarged, the foot and toes being covered with growths of various shapes and sizes—some round, some flat, some fungoid—all very evil smelling. On the shin and calf were several scars, clearly specific; on the knee was a circular lesion several inches in diameter, clearing in the centre, with a papular crusted periphery. A scar in the groin, one on the cheek, and another on the neck marked the sites of operations for abscesses when a child. The lesions on the foot had existed since he was a child, and had been in the present condition for six or eight months. The scars on the leg had existed since childhood. The lesion on the knee had existed two years, and had been inflammatory and crusted for the past year. It was proposed to make thorough tests for syphilis and tuberculosis.

### **Generalized Lichen Planus.** Presented by DR. WHITEHOUSE.

The patient was a male, aged sixty-seven. The disease began three months ago on the neck and gradually became general, including the buccal mucous membrane and the mucous surface of the lip. He exhibited a generalized eruption covering chiefly the extensor surfaces of the forearms, where the lesions were thick and confluent; the lesions also were on the palms, thighs and legs, the trunk, back and front, the

buttocks, axillæ, glans penis, and a few on the neck. He also showed white plaques on the buccal mucous membrane, the site of former lesions.

The treatment for the past three months consisted of Gr. 1/16 Hgdrarg. bichlor., t. i. d., and calamine and zinc lotion. It was much improved.

**Case for Diagnosis (Dermatitis Herpetiformis?).** Presented by DR. WINFIELD.

The patient was a man aged fifty-four, a native of Norway. He had a chancre when he was nineteen years old, followed by an eruption. He received but little, if any, treatment. He was married at twenty-eight; his wife had three children, no miscarriages. She died at the age of forty from pneumonia. Only one of the three children were living; the other two died, one from diphtheria and the other from some intestinal trouble, when quite small children. The surviving child was a strong, healthy boy of sixteen.

The eruption for which the speaker was consulted began about fifteen years ago. It was first noticed over the upper part of the right arm; from there it spread to the shoulders and to the other arm. In the last fifteen years the affected areas had never been entirely well, although the eruption was considerably better in summer.

DR. TRIMBLE said that the long duration, the intense itching, and the locations would seem to indicate a dermatitis herpetiformis more than anything he could think of.

DR. WHITEHOUSE said that he saw more of the characteristics of lichen planus than anything else. The duration of the disease was unique, but it came and went. There was a circinate lesion on the penis, and from that alone he would call it lichen planus. He was inclined to consider that diagnosis very carefully.

DR. KLOTZ said that he thought a case of lichen planus of such a duration would present a more bluish and livid color instead of the bright red lesions seen on the patient.

DR. WINFIELD said that at first he had thought it a case of lichen planus, but that after studying it for a while he reached the conclusion that it was a papular type of dermatitis herpetiformis. The positive Wassermann confused the diagnosis somewhat. Replying to an inquiry, Dr. Winfield said that the patient was not a drinking man.

**Lupus Erythematosus Disseminatus.** Presented by DR. TRIMBLE.

The patient was a young man, aged twenty-five. The condition had existed for five months. Over the entire face and part of the scalp, and also on the shoulders, arms, forearms, and back and palms of the hands was a diffuse, dull red, scaly eruption; it was infiltrated and took on a violaceous color on the back of the hands. The palmar lesions were peculiar in that they were lumpy and not scaly. The disease began with mild systemic symptoms—fever, malaise, etc. The lesions were hot and itchy when the disease first appeared.

DR. HOWARD FOX had had opportunity to study the case during the summer at the Vanderbilt Clinic, and agreed with Dr. Trimble's diagnosis. The nu-

merous atrophic, discrete lesions upon the hands would exclude a seborrhoeic dermatitis, a possibility that had been considered when the case was first observed. Dr. Fox considered the ultimate prognosis to be bad. He had examined the blood and found a negative Wassermann reaction.

Dr. WHITEHOUSE agreed with the diagnosis.

Dr. BRONSON said that he had not seen the marks of lupus erythematosus. The inflammatory signs were unlike the disease. There was a superficial exudation with swelling, a papular eruption at the periphery, which rather indicated a type of eczematous character than that of lupus erythematosus.

Dr. Fox thought it was an acute type of lupus erythematosus which ran a rapid and frequently fatal course.

Dr. WHITEHOUSE said that the lesions on the mucous surface of the upper lip and the mouth would contribute somewhat to the diagnosis of lupus erythematosus. He would not for a moment hesitate to call it lupus erythematosus.

### **Case for Diagnosis.** Presented by Dr. TRIMBLE.

Lupus vulgaris, epithelioma, or lues? This patient was a young man, aged twenty-one. He had a small ulcerating lesion about the size of a split pea on the right ala of the nose, taking in the free border. It had existed for four years. The border seemed elevated and pearly, and it strongly resembled an epithelioma. It had also some resemblance to lupus.

Dr. DADE considered it a rodent-ulcer type of epithelioma.

Dr. ROBINSON pronounced it a very malignant type of epithelioma, with a very unfavorable prognosis.

### **Tuberculosis or Syphilis?** Presented by Dr. MACKEE for Dr. FORDYCE.

The patient was a man, twenty-two years of age. He had been referred to the clinic by Dr. Slade, who had been treating him for pulmonary tuberculosis. The lesion for which the man was presented was in the mucous membrane of the left cheek, close to the mouth. It consisted of an ulcerating and vegetating patch the size of a ten-cent piece, and was painless. There was a sear at the commissure of the mouth which extended for about one-half inch into the skin of the cheek. The ulcer began at the commissure of the mouth and had extended both externally and internally. Healing of the skin lesion had occurred spontaneously. There was no history of syphilis; the Wassermann was negative, and there had been no improvement under internal anti-specific treatment. There had been, apparently, some improvement under tuberculin therapy. The diagnosis would seem to rest between tuberculosis and syphilis.

Dr. JACKSON said that it had the appearance of a syphilide rather than a tuberculide.

Dr. SHERWELL believed it to be syphilis.

Dr. WINFIELD inquired whether the sputum had been examined,—to which Dr. MacKee replied in the affirmative.

DR. WHITEHOUSE said that the lesion appeared to be specific. It was possible that the man had tuberculosis pulmonalis and yet had a specific infection in connection with it.

**Lupus Erythematosus.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a man, eighteen years of age. The duration of the eruption was three months. The first lesion was the size of a ten-cent piece and was situated on the nose. The lesion spread rapidly until the entire face was involved, and a large patch appeared on the chest. The eruption at the time of presentation was sharply margined, slightly infiltrated, violaceous in color, and the patulous follicles could be plainly seen. There were a few firmly adherent scales. When the patient first came under observation the eruption was limited to the face and there was considerable exudation and crusting. A diagnosis of eczema was considered, but it was later ascertained that an irritating ointment had been applied which in all probability produced the superimposed dermatitis. The patient was anæmic and in poor general health. The speaker considered the case to be one of rapidly spreading lupus erythematosus disseminatus, and was probably associated with a bad prognosis.<sup>1</sup>

**Psoriasis Showing the Effect of Treatment with Arsenic.** Presented by DR. TRIMBLE.

The patient was a young man about twenty-five years of age, who had had inveterate psoriasis for seven or eight years. The lesions were gyrate and generalized over the whole body. He had been given Fowler's solution internally and had had no external treatment. This treatment has produced a cure of the psoriasis but left behind quite a marked pigmentation. This pigmentation was not entirely due to the arsenic, as the photograph presented showed a rather marked pigmentation in the centre of the lesion before the arsenic was administered. Another interesting feature was the occurrence of several plaques of erythema on the right thigh. They were accompanied by neuralgic pains, which suggested abortive lesions of zoster arsenicalis.

<sup>1</sup> The patient died as a result of pneumonia, three weeks after he was presented to the Society.

NEW YORK ACADEMY OF MEDICINE,  
SECTION ON DERMATOLOGY.

October and November, 1911.

JEROME KINGSBURY, M.D., *Chairman.***A Case Showing Anaphylaxis.** Presented by DR. ELI LONG.

The patient was seven years old and the following history pertained to his anaphylaxis. At ten months of age the boy was given white of egg in barley water. No effect upon his skin was noted. This may have been the time of his sensitization. At fourteen months of age he was offered a soft boiled egg and took only a taste when he cried out and clawed at his mouth. Immediately his lips, tongue and the mucous membrane of his mouth became enormously swollen and urticarial wheals appeared about his mouth. He did not, however, become generally ill. Within a few days he was again offered egg but refused even to taste it. Toward the end of his second year while playing with egg shells, urticarial wheals appeared on his hands and arms. This occurred several times until his mother realized the cause of the urticaria. At twenty-two months of age, when convalescent from bronchitis, he was given about one-eighth of the white of one egg in milk. This was immediately followed by swelling of the mouth, urticaria and vomiting. At two years of age, as an experiment, he was given a very small portion of the white of a soft boiled egg between pieces of bread. The child took but a little when he vomited and enormous swelling of the lips, tongue and buccal mucous membrane appeared. His face became flushed, respiration rapid; no convulsion but general muscular twitchings. He fell into a restless sleep but after a few moments awoke with vomiting. He now became semi-comatose, relapsing into sleep. After about three hours he awoke and was as well as ever. About two years ago the boy ate an almond and a Brazil nut and the same phenomenon of swelling of the lips and cheeks appeared. His mother noticed that he could be given oatmeal for a few consecutive days only, or the same swelling and urticaria about the mouth occurred. The last time oatmeal was given he vomited. The chronic skin disease which he had and which had resisted all treatment improved to a marked extent when the boy took a minimum amount of food. This had been so apparent that his mother said, "He seems to be made to go without food." The most interesting scientific features of the case and the most important to the patient were the relation between his skin disease and his susceptibility to certain foods, and whether immunization against these articles of food would cure his skin disease.

DR. SCHLOSS said that it was found that cutaneous inoculation of eggs, almond and oats by means of the Pirquet borer produced a distinct urticarial wheal at



the site of inoculation. Certain active constituents of these foods were capable of causing urticaria by mere contact with the unbroken skin. The reaction was caused only by the protein constituents of the three toxic foods; extracts and preparations free from protein were entirely inert. Certain active substances—ovomucoid from eggs and a proteose from almonds—were capable of inducing a reaction in dilution as high as 1-15,000. Cutaneous tests had been made on the patient with 1-10,000 solutions of ovomucoid and almond proteose by means of the "borer" and by massage. The skin showed the characteristic reaction. By means of intraperitoneal injections of the patient's blood serum it was possible to passively sensitize guinea-pigs to ovomucoid. Control experiments with normal human blood serum were entirely negative. These experiments demonstrated that the allergic condition of the patient—to egg at least—was due to protein sensitization or anaphylaxis.

**Lupus Vulgaris.** Presented by DR. GILMOUR.

F. M., male, single, nativity, United States. Occupation, baker. Family history as follows: the father was fifty-five years old and well. The mother died of childbirth eighteen years ago. Her death was soon followed by that of her infant child. Another sister died, cause of death unknown. Past history: the patient had never suffered from a cough and always considered himself perfectly healthy. Present history: the patient applied for treatment at the clinic April 23, 1908. The present trouble started two years before the patient came to the clinic. It began as a small papule at the inner canthus of the right eye and spread gradually, involving the entire nose, a small adjacent part of the right cheek and the right upper eyelid. This was the extent on April 23, 1908. Until two months previous to this time the patient described the nose as being red and smooth. On admission the diagnosis was doubtful. No characteristic apple-jelly tubercles were present. The nose presented a smooth, reddened surface with a few small nodules at its edges. A diagnosis of lues appeared to be the correct one and a thorough course of anti-syphilitic treatment by means of injections of the insoluble salicylates and the soluble bichloride of mercury was carried on for 10 months without the desired result. The Wassermann test had been negative. During March, 1909, the von Pirquet test was: Human ++, Bovine +, Control —. A course of tuberculin treatment did not give satisfactory results and was discontinued. From November, 1909, the X-ray was employed several times, but because of a severe reaction of the forehead it was discontinued. Examination showed the entire nose, one-half of either cheek adjacent to the nose, part of the nasal septum and a portion of the forehead to be involved. The tip of the nose and part of the nasal septum had been destroyed by the process. The progress of the disease had been mostly from the free border, but at times spots appeared one-half inch beyond the advancing border; ectropion of the right eye and enlarged submental glands had been present for the past year.

DR. MACKEE said that the X-ray was not nearly as efficacious in the flat, atrophic type of the disease as in the ulcerative form. He expressed surprise

that the ulcerations in Dr. Gilmour's case had not responded to X-radiation. He suggested the use of tuberculin which frequently was very effectual in dealing with the stubborn apple-jelly nodules. Tuberculin would also probably cause the ulcerative lesions to disappear if combined with staphylococcic vaccine.

Dr. GILMOUR said that the X-ray had been used upon the lip and had proved very useful, but that the patient had objected on account of the severe reaction, and the treatment had been abandoned.

### **Lupus Erythematosus Disseminatus.**      Presented by DR. GILMOUR.

J. F., male, white, aged nineteen years. Native of Austria, occupation bartender. Family history: his father died of heart disease at the age of forty-five; his mother was living and well. He had one brother and two sisters, all living and well. Past history: the patient, when a child, suffered from an abscess on the left side of the jaw. The scar from this was still plainly visible. Present history: for eighteen months previous to November, 1908, the patient was employed as a lineman. About December 1, 1908, the patient had the left ear frozen. Shortly after this he noticed, as he expressed it, "the skin behind this ear got crumbling." He employed cold cream without effect. The following April, 1909, the disease appeared on the right side of the nose. He then had treatment at one of the New York clinics without an improvement of his condition. Six months later, numerous spots appeared simultaneously on the abdomen. Eighteen months ago lesions began to appear on the palm of the right hand; shortly after this lesions appeared on the palm of the left hand. These lesions were not large ones. They were active about ten months, then healed. After eight months, slight scarring was still present. One year ago lesions began on the tips of the ring fingers. These lesions had grown under and gradually raised the nail in a ridge parallel to the long diameter of the nail. This process had caused a splitting of the free edge of the nails at the crest of the ridge. White, closely packed scales, which had the appearance of mortar, were seen under these nails.

The entire nose was involved in an atrophic process covered with fine white scales. At its upper half the lesion ran just a little beyond the nose on either cheek. There was a round spot the size of a twenty-five cent piece in the middle of the left cheek. Eight small areas, in diameter about half an inch each, were between this spot and the left ear. The entire left ear and an area extending one-half inch beyond it was involved. The entire right ear was affected, but not as severely as the left. There was the same extension behind this ear as in the case of the other ear. The involvement of the ears and of the surrounding areas was symmetrical in extent but not in degree. The top of the head showed a dozen small spots of atrophy. Two large ones showed well-marked atrophy and scaling and loss of hair. Both arms showed a few lesions on their outer aspects. The forearms on their flexor surfaces were free. The right forearm had four spots on its extensor aspect. The right hand had five spots on its dorsal aspect. The left forearm had four lesions on

its extensor surface. The left hand showed numerous lesions. The entire front of the chest and the abdomen, except for a rectangular area extending one inch below, two inches above and to either side of the umbilicus, was thickly studded with lesions one-quarter to one inch in diameter. The form of these spots was in general oval or round. In places several of these spots had fused, forming more or less kidney-shaped areas about two inches in length. The back at its upper part was involved in a cruciform manner. An area three inches broad ran for about six inches down the spine from the neck; another area of small lesions crossed this, following the spines of the scapulæ. The middle transverse region of the back was quite free from lesions. The lower third of the back had a group of lesions running down the spine. Numerous lesions were scattered on either side of the area. A thickly involved area ran across the back above the gluteal fold. A few spots were present on the upper, inner part of the left gluteal region. Except for two small spots on the thighs, the lower limbs were free. The shape of the lesions was in general oval, round, or kidney-shaped where two or more lesions had fused. The individual lesions ranged in size up to one inch in diameter. They had a pinkish border with a grayish-white, scaly base, which in most lesions was below the level of the surrounding skin. The more atrophic lesions were pigmented and had lost considerable of the grayish color. The von Pirquet and Wassermann tests were negative. The patient was in a fair physical condition and considered himself perfectly well.

The treatment had been applications of carbon dioxide snow to the nose with a good result.

DR. POLLITZER said that the extreme atrophy and the rapidity with which the atrophy had followed the appearance of the lesions were both most unusual.

**Epithelioma Cured by One Application of the X-Ray.** Presented by  
DR. MACKEE.

The patient, who was from Dr. Fordyce's clinic, was a married woman, forty-five years of age. When she first came under the speaker's observation, there was a typical rodent ulcer on the left side of the upper lip. It was one-half inch wide and presented an elevated, pearly border with an ulcerating centre. The lesion did not involve the vermilion border. The duration was ten years. One application of the X-ray, consisting of six Holzknecht units, was applied on April 12, 1911. This was followed in two weeks by an erythema. The lesion gradually involuted and had entirely disappeared at the end of two months.

**Erythrodermie Pityriasique en Plaques Disseminées.** Presented by  
DR. OULMANN.

The patient was a man of sixty-six years, Russian by birth, twenty-five years in this country; a baker. His health was good. The disease had first appeared in the right mammary region two and one-half years ago. The

eruption was extensive and widely disseminated over the trunk and extremities in small and large plaques of a light red to a yellow red, on the legs a darker red color, scaling, some of them slightly infiltrated, some apparently not at all thickened; there was little or no pruritus. The case was the exact counterpart of one described by Arndt last year in his review published in the *Archiv für Dermatologie*.

**Lichen Spinulosus (?).** Presented by DR. WILE.

DR. WILE presented this case as one for diagnosis. The patient, aged forty-two, noticed the eruption for the first time about five months ago. It appeared rather suddenly with intense itching on the back of the neck and within a short time similar patches appeared on the chest and abdomen. When first seen the eruption was made up of follicular plugs, each surrounded by an inflammatory areola. Under arsenic during the past few months, there had been involution to a slight extent, of the horny papules and a more diffuse inflammatory reaction, so that at the present time the entire patch showed a purplish color not unlike that seen in patches of coalescent lichen planus papules. Several colleagues who had seen the case at Dr. Wile's office ventured the diagnosis of Darier's disease. Two biopsies had been performed and no suggestion of psorospermiosis was noted in the sections, which bore out the clinical picture of parakeratosis, widening of the follicular orifices, which were filled with a hyaline degenerated horny plug, and a round cell infiltration around the base of the hair follicles. Without venturing a positive diagnosis, Dr. Wile suggested that the case resembled the disease described by Crocker as lichen spinulosus.

DR. POLLITZER said that the size and distribution of the patches and the presence of comedones were very suggestive of lupus erythematosus. The comedones were sebaceous, not spiny. The atrophy was part of the lesion, not a scarring, such as would be produced by an external irritant. He excluded lichen spinulosus by the location of the patches and their sharp limitation.

DR. MACKEE thought that the case could be considered one of lichen spinulosus.

DR. WILE said that the patches whose involution he himself had observed did not show any atrophy. He had prescribed only the lotion of calamine and zinc, but the patient had previously been at the Essex Street Dispensary, and the atrophy might have been due to applications which had been made there.

**Case for Diagnosis.** Presented by DR. TRIMBLE.

The patient was a colored child, aged three years, shown before the New York Dermatological Society, October, 1911. Nativity, United States. The duration of the disease had been one year; the location, on the trunk and lower extremities. The lesions were superficial, very small and grouped in papules, some of which had a tiny scale, situated on the trunk with a superficial scaling eruption on the thighs and legs. There were no subjective symptoms, but the mother claimed that the lesion

itched slightly at first. Several different diseases had been thought of in connection with the case, but it was presented for diagnosis.

DR. MACKEE said that the numerous acuminate follicular papules would suggest a diagnosis of lichen scrofulosorum.

**Molluscum Contagiosum.** Presented by DR. KINGSBURY.

The patient was a female child, three and one-half years old. The first lesions were noticed on the neck about ten months ago and soon others appeared on the face and trunk. The case was of interest on account of the very large number of lesions present. The parents of the child stated that a younger daughter had a similar eruption.

**Lupus Erythematosus, Treated by the Hollander Method.**

Presented by DR. TRIMBLE.

The patient was a woman, aged forty-five, a native of Russia, married. She was previously shown before several dermatological societies, including the New York Dermatological Society in October, 1911. The duration of the condition was seven years. When the patient was first seen the lesion had existed for three years; it was located on the nose, but encroached slightly on both cheeks. It was dusky red, much infiltrated and very slightly scaly, but no atrophy existed. The diagnosis rested between lupus erythematosus and lues. A biopsy was made and the specimen seemed to conform more to the picture of lues than lupus erythematosus. Under antiluetic treatment the lesion almost healed but not completely. A relapse occurred which was again treated by mercury and iodide of potash, but with no result. The patient was then treated for erythematosus lupus. The woman improved for a while, but only to relapse again, when finally it was decided to try the treatment for lupus erythematosus suggested by Hollander, which consisted of the tincture of iodine locally and quinine internally. The case was presented to show the good result of this treatment, the lesion having practically disappeared, although the infiltration was still present to some extent.

**Keratosis Follicularis (Darier).** Presented by DR. TRIMBLE.

The patient was a man, aged thirty-four, shown before the New York Dermatological Society, October, 1911; occupation, a driver. He was single and a native of the United States. The duration of the disease was two years. The location of the lesions was on the face and in the armpits. The regions named were covered with somewhat flattened, wartlike or keratotic lesions, some of which had a central dot. One of the interesting features of the case was the marked keratosis of the feet.

DR. WILE said that this was undoubtedly a case of Darier's disease, and that slides showed the presence of a large number of psorosperms.

**Gummatous Lymphomata.** Presented by DR. WILE.

The patient, a boy of nineteen, contracted a primary sore six months ago, followed some time after by a follicular grouped syphilide, most of the elements of which soon became pustular. This fact, together with rather an extreme grade of cachexia exhibited by the patient, suggested at the outset a syphilis bordering on malignancy. The subsequent history justified that surmise. During the time that the patient was receiving energetic treatment—two and a half grains of mercury salicylate every fifth day—the glands of the neck on the right side swelled up, but soon receded. Subsequently, those on the left side swelled and despite treatment reached their present size, about that of a plum. The anterior and posterior cervical glands were those involved as well as the gland on the mastoid process. Each gland was discrete but one anterior and one posterior cervical gland had softened and each fluctuated distinctly. There was no pain, even on pressure. Dr. Wile was able to demonstrate a few spirochætæ pallida from the fluid withdrawn by aspiration from one of the glands. Very little notice was found in the literature of this condition. The first to describe such cases in this country was the late Dr. Lustgarten, other later contributions on the subject being found in the German literature by Delbanco and also by Fasal.

DR. WILE said that the case illustrated the impossibility of differentiating secondary and tertiary syphilis by the time of their occurrence. The patient had a chancre, severe secondaries and gummatous lymph nodes, all within six months.

**Lichen Planus.** Presented by DR. POLLITZER.

The patient, a middle-aged woman, was presented on account of the unusually large number of annular and gyrate lesions present in her otherwise typical and extensive lichen planus.

**Lichen Planus.** Presented by DR. WILLIAMS.

The patient was a German, twenty-nine years old, single; an elevator man. He denied syphilis. He had rheumatic pains in the shoulders five or six years ago. He had had no previous eruptions. He had had indigestion for many years. His appetite was fair. He was costive and had very bad heartburn, especially after smoking. Occasionally he had cramps in the abdomen. The present eruption had existed for about three months; it first appeared on the glans penis, where brown stains could still be seen, then upon the left thigh and then it became general on the trunk, extending a little over the extremities. The new lesions were pink, flat, shiny papules and patches, the largest about one inch by three; the centre was dark fawn color, depressed and slightly scaly; the borders were sharply outlined, raised and a dull red, apparently composed of papules run together; there was very slight scaling. Some developing lesions

looked like close set, compressed vesicles. There was itching in the early stages. The Wassermann test was negative.

**Case for Diagnosis.** Presented by DR. PAROUNAGIAN.

A. A., Italian, aged thirty-six. Married, a barber by occupation. His father died at the age of fifty-five of paralysis; his mother died of pneumonia at forty-eight; he had seven brothers and six sisters. Two brothers and two sisters died in infancy. He had been married six years and had two healthy children. He had had several attacks of urethritis, the last one about eight years ago. About eight years ago he had a slight lesion on the genitals, appearing as a papule, which got well in four or five days without treatment. His present trouble started nineteen months ago in the form of a discoloration about the size of a pea, at the dorsal ridge of the glans penis. It was red and slightly painful. About nine days later a white spot appeared in the center of this papule for which he consulted a physician who prescribed potassium permanganate solution. It ulcerated and became larger; in the meantime a number of applications had been made, including curetting and the actual cautery. Before the original sore was healed another lesion started to the left of the same; with cauterization and tincture of iodine it healed up and later other lesions started—about July—and several more appeared since. Depressed scars of these were still remaining. In April he had an intramuscular injection of salvarsan and took a great quantity of potassium iodide and mercury pills. The Wassermann test was made a year ago in July, before he took internal treatment, and it was weakly positive. He had no adenopathy, no lesions in the throat and no other evidence of lues that the speaker could detect.

DR. MACKEE said that he would consider the lesion to be an ulcerating gumma.

DR. POLLITZER regarded the lesions as produced by multiple ulcerating gummata.

DR. WILE said this was a case of multiple ulcerating gummata.

DR. PAROUNAGIAN said that he had at first thought this to be a case of multiple ulcerating gummata, but that the failure to respond to treatment and the induration of the lesions were against a diagnosis of syphilis. However, he will give the patient an intravenous injection of salvarsan and local mercurial treatment and report on the same later.

## PHILADELPHIA DERMATOLOGICAL SOCIETY.

December 28, 1911.

*(Continued from page 45.)***Sycosis Vulgaris Treated with the Roentgen Rays.** Presented by  
DR. PFAHLER.

A well-marked case of this affection had lasted for six years, resisting ointments and lotions. The patient was apparently well, after six exposures to the X-rays.

**Atrophoderma Maculatum.** Presented by DR. SCHAMBERG.

A young woman, twenty-three years of age, had had for many years an eruptive disorder on the face, the neck, the upper part of the chest, the back and arms. The lesions which were very numerous, consisted of small, oval and linear, whitish atrophic depressions, many of which showed fine telangiectases. In certain parts of the face the linear atrophy was so pronounced as to throw the skin into wrinkles. In the warmer months, pinhead to lentil-seed sized lentigines, varying in color from a faint yellowish-brown to a much deeper tint were scattered over the face. The face was subject to marked flushing. The lesions appeared to have had their origin in urticarial papules, which were accompanied by marked itching and which lasted a half hour to several hours, and then disappeared. The atrophies apparently occurred at the site of these papules. The number and frequency of new papules varied very much from time to time. Pellizzari described a somewhat similar case.

**Cancer of the Tongue Treated with the Roentgen Rays.** Presented  
by DR. PFAHLER.

A male of seventy-one years was referred by Dr. Jarrett, September 28, 1911, because of an ulcer under the left side of the tongue, one and one-half inches long and one inch wide, indurated and accompanied by enlarged submaxillary glands on the left side. The treatment consisted of local destruction by "oscillatory desiccation" and the external application of the X-rays to the enlarged glands of the neck. The rays were also applied under the tongue. The treatments were continued until a dermatitis was produced. He had had seventy-two exposures, approximately one-half externally and the remainder in the mouth. The internal X-ray treatments were given with a Morton tube, 20 milliamperes, Benoist 6, at 12 inches, with a leather filter.



**Favus.** Presented by DR. SCHAMBERG.

An old favus in a young woman, in whom the scalp was almost entirely devoid of hair, was shown. No obvious scarring of the type usually observed in favus was observed, the scalp presenting more of an atrophic appearance.

**Syphilis of the Cheek Resembling Porokeratosis.** Presented by DR. STELWAGON.

A woman, aged forty-four years, presented an elongated oval patch, two and one-half by one and one-quarter inches, on the right side of the face, toward the ear, the lower edge just reaching the line of the jaw. The border of the patch was sharply defined by the depressed interior of the growth. The surface was smooth, soft and cicatricial, with here and there soft brownish nodules, but no ulceration. The scarring apparently had resulted from atrophy without preceding ulcerative activity. The disease appeared eleven years previously as a small nodular spot and had gradually increased in size since then. There was a history of lues seventeen years ago. The area presented a medley of the objective symptoms of lupus, syphilis, rodent ulcer, and porokeratosis. Nodules were also observed beyond the border of the present patch. Gradual improvement had taken place under moderate to full doses of sodium iodide and a short exposure to the X-rays. Four months after the patient was exhibited she had almost completely recovered. At the meeting most of the members looked upon the case as rodent ulcer.

**Folliculitis Decalvans.** Presented by DR. SCHAMBERG.

A woman, thirty-five years of age, developed, six months ago, a scalp affection which had destroyed the hair over a considerable area of the scalp, leaving cicatricial patches. There appeared to be associated a considerable degree of dermatitis seborrhœica with marked itching. Apart from the latter condition, no inflammatory process had been noted.

**Urticaria Pigmentosa.** Presented by DR. HARTZELL.

A girl infant, aged fifteen months, was exhibited with a very extensive eruption, which first developed two weeks after birth. Practically every portion of the cutaneous surface was attacked, including the scalp. The lesions were from split-pea to dime in size and of a yellowish-brown to a dark-brown color. There was a considerable amount of pruritus and the baby scratched considerably. Wheals could easily be produced by rubbing the skin surface.

**Urticaria Pigmentosa.** Presented by DR. KNOWLES.

A girl, aged eleven years, was exhibited with a typical outbreak of one and one-half years' duration. Erythematous, slightly elevated papules

and plaques, more than a hundred in number, were observed more or less generally over the skin surface, chiefly however on the chest and the back. Most of the lesions were dark-brown in color. Factitious wheals could be easily provoked. The patient had been under observation for eight months. The condition had been markedly improved and the itching had almost entirely stopped, under an antipruritic dusting powder and careful regulation of the diet.

DR. HOWARD FOX inquired whether any bullæ had been observed in these cases and was answered in the negative. He recalled a case of urticaria pigmentosa presented before the New York Dermatological Society, in which so many scratched bullous and vesicular lesions were present that the case had been considered one of dermatitis herpetiformis by some of the members. An examination of the blood showed no increase in the number of eosinophiles and a subsequent observation of the case had shown it to be a classical one of urticaria pigmentosa.

DR. RAVOGLI said that the difference between urticaria and urticaria pigmentosa was only in the degree of severity of the process. The cause of the pigment was the effusion of the coloring matter of the blood, of hæmatin, in the tissues of the papillary layer and derma. The hæmatin in the tissues was changed into hæmatoidin, giving that greenish-brown color to the skin. In his practice only a few cases of urticaria pigmentosa had occurred and the use of iron and tonics had helped the general nutrition and the recurrence of the wheals had gradually subsided.

### **Mycosis Fungoides.** Presented by DR. HARTZELL.

A male of thirty-two years, a steam-fitter by trade, had been under observation for almost two years, with an eruption which had become within the last few weeks typical of the disease. Numerous erythematous-squamous diffuse and circumscribed patches were observed upon the neck, the trunk, the upper arms, the sides of the neck, the right popliteal space and the upper portion of the thighs. The lesions were from a dime to a palm in size and markedly infiltrated. The follicles were unusually prominent in the patches over the anterior surface of the trunk. A few elevated ring-shaped patches, quite thickened, were observed over the trunk and a flat finger-nail sized tumor was noted on the right upper eye-lid. The eruption was intensely pruritic. Sections were made of one of the lesions and the microscopical picture was absolutely characteristic. The patient was presented because of the typical character of the lesions and of the early age of the patient; the eruption starting at the age of twenty-four years.

DR. HOWARD FOX said that this case illustrated the value of photography in dermatology. Mycosis fungoides was one of the diseases of the skin in which at certain stages, the lesions in any given case bore a striking resemblance to those of almost all other cases. He had seen cases showing patches very similar to the ones presented by this patient, particularly some of the lesions upon the scapulæ and about the axillæ.

**Multiple Areas of Tuberculosis in a Child.**

Presented by DR.

KNOWLES.

The patient, a boy of five years, presented five patches of tuberculosis of the skin. The areas were verrucous and varied from a dime to a palm in size. The lesions were located upon both cheeks, the right upper leg and the thigh. The von Pirquet test gave a markedly positive reaction. The lesions were typical of the condition. The outbreak appeared two years ago.

FRANK CROZER KNOWLES, M.D.,

*Reporter.*

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**MANHATTAN DERMATOLOGICAL SOCIETY.**

October, 1911.

M. B. PAROUNAGIAN, M.D., *President.***Chancre of the Chin.**

Presented by DR. GOTTHEIL.

The patient, aged twenty-six, married, was admitted to the City Hospital, September 15, 1911. About July 4th she noticed a small lump on the right side of her chin, not especially tender; this grew larger for about three weeks, then dried up and slowly disappeared. An eruption appeared on the face early in August; this also disappeared without treatment. Later in the same month a general eruption, which included the face, appeared. On admission there was a sparse general macular syphiloderm of the body, an abundant, more or less confluent eruption of large, pink, waxy nodules on the face, a palmar and plantar nodular syphilide, mucous patches and a markedly positive Wassermann reaction. On the chin was a healed sear, still markedly indurated. No lesions of the genitals were found. Of interest was the rapid healing of the initial lesion (some six weeks) without any treatment, when favorably situated.

**Epithelioma or Tertiary Syphilis?**

Presented by DR. KINCH.

The patient was a male adult. He had been under treatment at the Lebanon Dispensary for three weeks. The lesion was present in the mouth four weeks before that time. There was a loss of epithelium on the lips; this loss extended on to the floor of the mouth. The patient was married; there was no syphilitic history and no syphilis in any member of the family. At times the lip was indurated and the sub-maxillary glands were enlarged. He was an inveterate smoker. The entire surface of the lip was thickened and ulcerating, mostly marked

on the right side. The tongue was similarly involved but to a lesser extent. Topical applications of silver nitrate had been the only treatment.

DR. MACKEE said he would hesitate to exclude syphilis. The lesion lacked the hard margins that usually accompanied epithelioma.

DR. GOTTHEIL thought the case looked like one of leukoplakia syphilitica with beginning epitheliomatous degeneration. He would warn against the use of salvarsan in this case for he believed that in certain cases it may stimulate the epithelial new growth and thus have a bad effect on the malignant process.

#### **Bazin's Disease Treated with Tuberculin.**

Presented by

DR. MACKEE.

This was the case of a young girl who had previously been shown to the Dermatological Section of the New York Academy of Medicine by the speaker, and at the New York Dermatological Society by Dr. Fordyce. Both the tubercular and ulcerative lesions had undergone prompt resolution as the direct result of the injections of tuberculin.

#### **Lichen Planus with Very Marked Pigmentation.**

Presented by

DR. WEISS.

The patient was a female of twelve. The eruption appeared ten months ago, starting simultaneously over the entire body; the itching was very pronounced. The mucous membrane was not affected. The eruption was very abundant all over the body, especially the trunk; the lesions were in the stage of involution, showing deep brown pigmentation. The patient was otherwise in good condition. The case was shown on account of the marked pigmentation all over the trunk. Though the characteristic sepia-brown pigmentation was frequently observed on the legs and on other parts of the body, it was not common to see such a diffuse pigmentation on the trunk. There was a marked similarity to the case presented by Zumbusch in the *Ikonographica Dermatologica*, Section 2, page 75, tab. xvi.

DR. GOTTHEIL remarked that such pigmentation was not very uncommon. He had seen deeper pigmentation in chronic cases.

#### **Syphilis Maligna.** Presented by DR. PISKO.

The patient was a colored male adult. He had had a chancre of the penis some six months ago. When presented he had annular lesions on the nose, a frambæiform lesion on the chin and a general, typical, large tuberculo-pustular eruption on the body.

#### **Lupus Vulgaris Treated with the X-Rays; Improved.** Presented by DR. OULMANN.

The patient was a female of thirty-two; about one year ago she noticed a small patch, which grew fairly rapidly, on her right buttock.

When first seen about three weeks ago, there was a lesion about the size of the palm of the hand. It was slightly raised, reddish and infiltrated. The margins had the characteristic "apply-jelly" papules; the centre of the lesion was slightly atrophic. When presented, the patient had had four X-ray treatments. The skin was wrinkled and pigmented. The infiltration was markedly diminished and only a few papules were to be noted along the margin of the lesion.

**Erythema Bullosum.** Presented by DR. OULMANN.

The patient was a young girl. When first seen a week ago there were a number of bullæ on an inflamed base about an inch in diameter, on both arms and formerly on the legs. When presented before the society, there were a number of lesions on the extensor aspect of the arms; they were crusted, brown, readily detachable, leaving a shiny, dry surface, like an impetigo. As the child had, two years ago, a crop of bullæ on the legs and arms and as the lesions were intensely itchy, the speaker was of the opinion that the case will develop into one of dermatitis herpetiformis.

**Pemphigus Vegetans.** Presented by DR. WEISS.

The patient was a female, aged twenty-two. One year ago she complained of a vaginal discharge. Soon after, an eruption appeared on the nymphæ, inner side of the thighs and in the inguinal regions. Under treatment of some kind the eruption disappeared. The patient then married and the eruption reappeared. The Wassermann reaction was positive. She was put on anti-syphilitic treatment with no effect. Eight months ago the eruption began to spread; it became papular, vegetating and in places ulcerating. It looked like an eczema marginatum vegetans. During the last week a diagnosis of pemphigus was made. The nymphæ looked hypertrophied, were dry, resembling kraurosis vulvæ; the inner sides of the thighs and the lateral abdominal regions were involved, presenting raised, reddened, infiltrated, papular and ulcerated lesions. At the margins of the eruption, ruptured bullæ were seen with granular, ulcerating bases. At the centre the skin was clearing. A little distance from the margins isolated tubercles and papulo-pustules were noted. On the mucus membrane of the mouth were the remains of small vesicles. The border of the lower lip was ulcerated and in part covered with adherent crusts. The bacteriological report of the examination of the secretion did not show any mycelia nor any blastomyces or spirochætæ. Unclassified microörganisms were very plentiful. No glandular enlargement at any time was noted.

DR. MACKEE was inclined to call the condition one of vegetating dermatitis. He suggested the use of the X-ray or staphylococcic vaccines.

DR. GOTTHEIL said that the lesions on the mucosæ were even more characteristic than those of the skin, the former especially marked a malignant type

of the disease. He considered the prognosis to be very bad indeed. Nothing had given him better results at the City Hospital than the continuous bath, which ought to be used, if possible, in this case.

DR. KINGSBURY regarded this case as one of syphilis and suggested an intravenous injection of salvarsan.

**Lupus Erythematosus of the Face, Scalp and Hands, Accompanied by Intense Pruritus.** Presented by DR. MACKEE.

This patient had been previously presented by the speaker before the Dermatological Section of the New York Academy of Medicine, at which time the disease was limited to the scalp, presented the appearance of alopecia areata and was accompanied by an unusual degree of itching. When presented to the society there were numerous discoid lesions on the scalp, some of them as large as the palm of the hand; they were all considerably inflamed and crusted. There was also a great degree of atrophy and severe itching in connection with the scalp lesions. There were numerous discoid lesions on the face and the dorsal surface of the hand. The speaker especially asked for advice regarding the control of the intense pruritus.

DR. GOTTHEIL said that we have gotten down to the destruction of the skin in varying degrees with solid carbon dioxide, in all cases that did not respond to the ordinary treatment, as green soap, sulphur, etc., finding it far superior in efficacy and manageability to the trichloroacetic acid we formerly employed. It was important to make the applications extend a certain distance, an eighth to a quarter of an inch, beyond the margins visibly affected, otherwise the malady will reappear just outside the treated area. Great stress should be laid on the itching as a symptom of disease even where no skin changes were visible. These patients were usually close observers, especially of lesions on the face, and he invariably treated areas where itching was felt even when little or nothing abnormal could be seen.

DR. WEISS advised the cleansing of the parts with benzine or carbona, followed by application of a ten per cent. silver nitrate solution.

REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York.

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(1912, cxi, No. 2.)

Abstracted by UDO J. WILE, M.D.

**A Clinical and Ætiological Study of Impetigo Contagiosa.** K. DOI and S. H. DOI, p. 629.

The authors describe a form of impetigo contagiosa epidemic in Japan which is quite distinct ætiologically from impetigo contagiosa as seen in the Occident, and differs somewhat in its clinical course. They have called this second variety impetigo contagiosa albo-staphylogenes. They present the clinical characteristics and their experimental studies of this disease and give the following resumé of their conclusions:

1. There are two forms of impetigo contagiosa which differ clinically and in their ætiology.
2. The first form is characterized by the appearance of vesicles and bullæ with at first a clear and later a white, turbid content. This form leads to the formation of thin crusts. The contents of the blisters as well as the surrounding skin tissue always contain white staphylococci.
3. The second form is clinically characterized by the formation of waxy, yellow, thick crusts. The streptococcus is invariably found in the contents of the blister, which rapidly forms a pustule.
4. Occasionally in both forms the yellow staphylococcus may be found but only as a secondary invader.
5. The first form,—“impetigo albo-staphylogenes” occurs epidemically in little children and only in the warmest seasons of the year, whereas the second, “streptococcus” form occurs sporadically at any time in the year. Not only does it occur in children but also in adults.
6. Only by the definite separation of these two clinical forms is it possible to establish the ætiology of impetigo contagiosa.

Concerning Congenital Stasis in the Sebaceous and Sweat Glands (*Miliaria Sebacea*, Jacquet, et *Hidrocystomatosis Congenitalis*). HENSELMANN, p. 611.

Herein is described a congenital anomaly of the sweat and sebaceous glands. The disease occurred in a new-born child, who showed in the face numerous white, pin-head sized vesicles. These were firm and free of inflammatory reaction. By firm pressure, a yellowish-white secretion could be expressed from the vesicles. In some of these lesions this secretion was thick and in others it had a thinner consistency. In addition to those on the face, there were numerous lesions also on the head and a few on the chest and back, and here and there scattered lesions on the rest of the body. The palms were entirely free whereas both soles were covered with vesicles of obviously different character than those on the rest of the body. They were less prominent, glassy looking, resembling cooked sago grains and they contained a perfectly clear secretion. On incising such lesions there was always a certain amount of blood in the secretion. On the abdomen there were also a few cysts with a perfectly clear secretion. In addition to these cysts there were present on the back about fifteen *nævi*, varying in size from a pea to a silver dollar. These varied in color from pale yellow to intense black. Many of them were covered also with hair. The clear skin between the lesions was also covered with a growth of long hair.

About twelve days after birth, the contents of the cysts showed pus elements and micro-organisms, whereas previously there were no cellular contents and the contents were furthermore sterile. The author concludes that in this case there was a primary stasis of the sebum in the hair follicles which later led to the formation of acne-like lesions. This change, of course, could not apply to the lesions on the soles where there are no sebaceous glands, and here the lesions were manifestly cysts of the sweat glands, or congenital *hidrocystomata*.

The author discusses the question as to whether this stasis was the result of a late "Anlage" of a portion of the sebaceous gland, or as to whether it resulted from an absolute closure of the orifice, such a closure being due to the misproportion between the width of the duct of the gland and the quantity of secretion. He speaks for the latter view, in support of which he offers the fact that the extraordinary growth of hair would naturally call for hypersecretion of the sebaceous glands. And he believes that in this case there was an unusually well developed system of sebaceous glands which furnished the basis for the pathological process. In conclusion he states: (1) Following a congenital *miliaria sebacea* there occurred, not the involution that has previously been seen in such cases but an extraordinary dissemination of sebaceous gland cysts over the entire body. (2) There was a gradual development of these lesions into those resembling acne. (3) The congenital cysts of the soles could only be interpreted as cysts of the sweat glands. Congenital *hidrocystomata* have not previously been observed.

(*Ibidem*, 1912, cxi, No. 3.)

New Observations on *Dermatitis Capilliti* (Kaposi). VÖRNER, p. 647.

In this paper the author gives a very complete literary review of the entire subject of keloid acne (*dermatitis capilliti*), reviewing in great detail many of the earlier and later monographs on the subject. From all of these may be deduced the unanimous opinion that in this disease we are dealing with an inflammatory neoplasm of the nature of a keloid or fibroma. Some difference, however, seems to exist concerning the *ætiology* of the affection, some holding



that it is caused by pus organisms or by an unknown specific organism, others that neither of these are causative factors. Some believe the disease to start as nodules having something of the character of the later tumors, whereas others believe that it begins with pustules, and up to the present, at least, according to the author, the histology has not been of any very great aid in settling the controversies regarding the clinical picture. The author has reported in great detail an observation of his own, together with a very complete histological study which he believes throws considerable new light on the subject. According to his studies the process begins as a circumscribed aggregation of cells following an extravasation of red cells and leucocytes, in the middle of which there is a dilatation of the blood and lymph vessels. One might speak of the process as an hæmorrhagic abscess. The nodule extends by a peripheral growth of its vascular centre. There is now a growth of young connective tissue cells and the cellular infiltrate takes on a more chronic character. Leucocytes, lymphocytes, plasma cells and finally even giant cells make their appearance. This is followed by young scar tissue in which here and there, tiny areas resembling the original inflammatory process may re-appear, constituting as it were, recurrences of the original process and accounting for the long standing induration. According to the author there is no genuine keloid or fibroma but rather a simple cicatricial hypertrophy of an inflammatory nature. One must regard the process as a local injury leading to a hæmorrhagic abscess in the cutis.

A further interesting observation was the demonstration in many of the giant cells, of rods resembling tubercle bacilli and also taking their acid fast stain. In smears, however, from the lesions he was able to demonstrate only cocci. Remembering the few positive experiments which other authors had made with respect to the tuberculous nature of keloids, Vörner injected his case with tuberculin and also did a von Pirquet test with a negative result. The demonstration of the acid fast bacilli, he states, can only be explained by further investigation, but he regards it as a very significant and suggestive finding.

**The Differentiation between Urticaria Pigmentosa and Urticaria Xanthelasmaidea.** BECH, p. 619.

The author discusses at length the difficulties which have arisen as a result of the complexity of names given to the case of urticaria associated with pigmentation. As a rule the term of urticaria pigmentosa has been limited to those cases which have developed in childhood and in which the histological picture shows an infiltration of mast cells. It is an undoubted fact, however, that some cases of urticaria pigmentosa do occur in adults. The term xanthelasmaidea has been restricted to those cases in which urticaria has been associated with pigmentation in adults. The author reports two cases, one of a typical so-called urticaria xanthelasmaidea occurring in a six-year-old boy, and another, a typical urticaria pigmentosa in a woman of forty-five.

DERMATOLOGISCHE WOCHENSCHRIFT.

(Nov. 23, 1912, lv, No. 47.)

Abstracted by FRED WISE, M.D.

**Cavernitis Penis Migrans.** WAELSCH, p. 1427.

**Color Photography in Dermatology.** MERIAN, p. 1430.

Merian deals with this interesting subject under three headings. (1) Photography in natural colors, according to Lumière's system. (2) The production of photomicrographic pictures. (3) The projection technique.

The purpose of the article is to acquaint the average dermatologist with the methods used in producing Lumière's autochrome plates, without involving a too complicated procedure to bring about the desired results. A complete exposition of the various kinds of apparatus, photographic materials, methods of taking and developing the plates, etc., is given with full details in the first portion of the paper. He calls attention to the fact that the necessary apparatus, formerly obtainable only at prohibitive prices, may now be purchased at a comparatively small outlay of money. The well-known firms of Zeiss, Leitz, Reichert and others produce apparatus of the highest type, but to one who desires an outfit at a minimal cost, Merian recommends the firm of Bergmann, in Gaggenau, Germany, from whom reliable, yet inexpensive apparatus may be procured. It is sold on the market under the name of "Lustro."

The author believes that we possess an ideal diapositive in natural colors, in the projection of efficient and reliable autochrome plates, and that successful results should be assured with the use of the proper projection apparatus and a thirty ampere arc lamp as the source of light.

(*Ibidem*, Nov. 30, 1912, lv, No. 48.)

**Keratosi Spinulosa (Lichen Spinosus of Crocker).** BECK, p. 1459.

Of the various forms of hyperkeratoses, those which arise partly from the mouths of the follicles and partly from the deeper portions of the follicles are of the greatest interest to the dermatologist. This is due to the fact that, while certain forms of keratoses, such as occur in the comedones of acne and in the follicular changes of keratosis pilaris are very common observations, other forms of follicular anomalies are rarely encountered. One of these instances is exemplified in keratosis spinulosa.

This dermatosis, together with a number of others which bear a close resemblance to it, have been variously described under a variety of names. Among these may be mentioned the lichen pilaris seu spinulosus of Devergie, the acné cornée of Hardy, the keratose pileaire of Audry, the acné kèratique of Tenneson and Leredde and the acne keratosa of Crocker; even the keratosis follicularis contagiosa of Brooks has found a place in this chaos of names. Beck believes, however, that from a clinical and histological standpoint, the following designations refer to one and the same dermatosis: namely, Crocker's lichen pilaris seu spinulosus of Devergie, Unna's keratosis follicularis spinulosa and Salinier's keratosis spinulosa.

The author describes the clinical and histological features of the disease in great detail and in a very clear and interesting style. He comes to the conclusion that keratosis spinulosa deserves a place as an entity in the pathology of cutaneous diseases and should therefore not be confounded with the various above-mentioned designations. Clinically, the disease occurs in the form of spinules, from one to two millimetres long, giving the affected portion of the skin the characteristic nutmeg grater appearance. These spinules occur exclusively in the young and develop without visible inflammatory manifestations. The places of predilection are at the sides of the neck, on the shoulders, the scapular regions, where plaques are found of about the size of a five-cent piece and they may occur also on other parts of the body. The base of the spinule is formed of a normal colored or of a bright red miliary papule. Histologically, the spinules show an exaggerated cornification, chiefly of intra-follicular origin, but in which the intra-epidermal portions of the ducts of the sweat glands are also concerned, as is also the keratin of the interfollicular epidermis. Besides the spinules, there occur also horny plugs which dip down into the interfollicular spaces and around which evidences of inflammatory reaction may be observed. The cornification is partly hyperkeratotic and partly

parakeratotic, but the former always predominates, while the latter may be altogether absent. The hairs and the sebaceous glands of the affected follicles are totally destroyed, while the glomeruli of the sweat glands remain unaffected. The disease heals spontaneously, leaving usually no evidence of its existence on the skin; now and then, however, small, atrophic spots remain after the healing has taken place.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Oct. 31, 1912, xxxviii, No. 44.)

Abstracted by CLARENCE ALLEN BAER, M.D.

**Neosalvarsan Treatment.** JULIUS GRUENBERG, p. 2070.

Ninety cases have been treated with 303 intravenous injections of neosalvarsan—one case received as many as 8 injections, although most cases received 3. The Wassermann test was made in all cases before injection, but some cases were lost sight of after injection. All the patients stood the injections very well. The advantages of neosalvarsan over salvarsan are its solubility and its neutral reaction. The preference for neosalvarsan would have been universal, had not some circumstances arisen in its use that did not occur with salvarsan. The cumulative and toxic properties of neosalvarsan have been demonstrated frequently and many have abandoned its use entirely. Gruenberg saw no difference in the after effect of neosalvarsan or salvarsan in his cases. The solution becomes turbid in a few minutes, often during the injection and the addition of sodium hydroxide is often necessary—this rapid oxydation of the preparation being a distinct disadvantage. Gruenberg concludes by stating that he would neither abandon neosalvarsan like Wolff and Mulzer nor use it exclusively, especially in office practice, like Touton; but would reserve it for those cases that do not need a rapid healing effect and where it is desirable to bring a large quantity of fluid into the circulation. Neosalvarsan must not be used as an abortive cure nor in recent secondary cases, but, if it should be used, only in cases where a rapid effect is not desired and then in small doses at 10 to 14 day intervals. If used thus, neosalvarsan may take its place at the side of salvarsan.

**On the Combination of Salvarsan and Mercury.** SAYNISCII, p. 2069.

The author is convinced that the combination of salvarsan and mercury gives a more thorough and quicker cure (?) than salvarsan alone. The following method is used at the Elberfeld clinic: they begin with inunctions until 160 gm. have been used; then the Wassermann reaction is taken; and then an intravenous salvarsan injection is given. Various reactions due to salvarsan are noted and explained; and the conclusion is drawn that the reactions are due to individual idiosyncracies. Saynisch concludes that a combination of salvarsan and mercury is the most profitable method of treatment; that a negative Wassermann should never be considered sufficient to stop treatment early; that continuous treatment, supplemented by several salvarsan injections is necessary for at least two to three years.

(*Ibidem*, Nov. 7, 1912, xxxviii, No. 45.)

**Bacteria Found in Psoriasis.** A. MENZER, p. 2119.

At the Congress for Internal Medicine, 1912, Menzer presented a paper on "Psoriasis a Skin Symptom of Constitutional Bacterial Diseases" and tried to show that the manifestations of psoriasis are due to known common causative

agents. It was stated then that careful internal examination would reveal some constitutional disease,—some chronic changes in the nasal passages, glandular swelling in the neck or mediastinum, angina. Snuffles, headache, etc., would precede an outbreak of psoriasis. Furthermore, it was shown that such patients treated with streptococcus serum, streptococcus vaccine or tuberculin gave general febrile reactions, and changes in the psoriasis lesions were observed. Therefore sections of the lesions taken from individuals who reacted to the vaccines were searched for organisms. In three cases cocci were found, not in the scales, but in the upper layers of the cutis close to the epithelial layers. It is as yet impossible to say if the organisms were streptococci or staphylococci. In spite of diligent search it has not yet been possible to demonstrate acid-fast organisms in the tissues by the Ziehl-Nielsen stain. A Gram-Much stain did, however, once show granules in the upper cutis layer. Once, in pus taken from an inflammation that developed spontaneously near a psoriasis lesion, acid-fast rods similar to tubercle bacilli were found. Animal inoculations would not be useful because the tubercle bacilli (if such they are) found in psoriasis lesions would be too slightly virulent to affect animals. The observations show that psoriasis patients suffer from a latent tuberculosis complicated by a mixed infection with strepto- and staphylococci. These bacteria are present in the skin in a weakened, unreplicative condition and remain there, inclosed in an inflammatory œdema with hyperæmia and scaling, but are called into active life by various internal and external procedures.

**Treatment of Epitheliomata with Copper Salts.** ARTHUR STRAUSS, p. 2122.

Three cases are reported—two of pure epithelioma and one case of lupus with a carcinoma superimposed. The therapeutic agent used was a salve containing lecithin and copper chloride (4.5%) made with alcohol and without fat. No doubt the lecithin had some effect as well as the copper. The cases (with illustrations) are reported in detail.

(*Ibidem*, No. 14, 1912, xxxviii, No. 46.)

**The Question of a Specific-Diagnostic Reaction in Pellagra.** HUGO RAUBITSCHKE, p. 2169.

The researches of the last few years on the pathology and ætiology of pellagra have been directed towards finding a causative agent of the disease. Experiments by Raubitschke, Lode and Horboczewski show that the disease is brought on by adherence to a diet of maize, either of good or bad quality, that has been made toxic by the effect of sunlight. It seems possible that an exclusive diet of other grain foods, such as rice, barley and buckwheat which have been exposed to strong sunlight also can produce disease similar to pellagra. The author says this new idea that pellagra is a "light-disease" is difficult of acceptance by many, because pellagra is the only human disease in which the body is sensitized by light, subsequent to partaking of a definite food stuff. The author experimented on human subjects by cutting off the effects of light on the skin of pellagrins. Early pellagrins were kept for a long time in rooms that were either entirely dark or in which the ordinary window panes were replaced by red glass. These experiments could not be continued for long periods because the patients improved so rapidly that they refused to remain in such rooms. Therefore a substitute was used—the hands were either covered with a black bandage or were smeared with vaseline containing charcoal. These experiments were discontinued because of a second equally effective method by which valuable conclusions about the ætiology of pellagra could be reached.

Experience in recent years has shown that during or after certain diseases there is present in the blood a specific substance of great diagnostic significance. Many Italian investigators have published their results tending to show that pellagra can be diagnosed from the blood and urine. Many bacteria and fungi have been suggested for many years as the causative agents of pellagra. The author did not give his attention to maize or its flour in the raw state, nor did he study the foods prepared therefrom as regards their bacteriological content. The studies were confined to bacterial examinations of the blood of pellagrins as well as of the organs of pellagrous patients who died in all stages of the disease. In spite of a painstaking and careful technique in many hundred examinations, not once was any organism isolated from the blood or organs. Therefore, the author is forced to conclude that the blood and the organs of pellagrins do not contain any organisms that can be cultivated by our present-day methods and that especially the blood of pellagrins, without exception, is germ free. Tizzoni has published results showing that an organism can be grown from pellagrous blood; the author has repeated these experiments in vain and has repeatedly written Tizzoni for one of his cultures, but has received only advice in answer. The author has also tried Tizzoni's serum reaction of pellagrins towards rabbit blood, but in 100 cases he has never been able to get this reaction, and concludes that it has not the slightest value as a diagnostic procedure. Other serum reactions were also found by numerous experiments to be worthless from a diagnostic standpoint. Therefore, the author concludes that the serum of pellagrins does not contain any antibody or other constituent that can be shown serologically to be specific for pellagra.

**The Spreading of Diphtheria and Leprosy through the Fæces.** ERNST DELBANCO, p. 2175.

The principal question at stake is: do the fæces contain virulent diphtheria bacilli that can produce an anal-skin diphtheria? There are two explanations of the presence of diphtheria bacilli in the fæces—either the germs are swallowed and pass on unaltered into the intestinal canal, or there is a diphtheria of the stomach and intestinal mucous membrane. *Lepra* bacilli also are numerous in the fæces of subjects of leprosy; where the fæces are not disinfected, this is a source of great danger.

**Of What Value is the Quantitative Estimation of the Wassermann Reaction?** HERMANN MAYER, p. 2174.

The first important thing to remember is that salvarsan added to a positive serum in a test tube will produce a negative Wassermann reaction. We know, therefore, that a Wassermann reaction does not become negative only by killing off the syphilitic virus, but rests to a great extent on the medication used in treatment. Secondly, Emanuel has shown that the positive Wassermann reaction that is the rule in rabbits can be made negative by the injection of salvarsan in healthy rabbits. Meier and Mayer have shown that the simultaneous injection of salvarsan and sheep corpuscles into rabbits produces a hæmolytic serum much more rapidly than when sheep corpuscles or salvarsan are injected alone. These experiments were made also on human beings. Hæmolytic substances were greatly increased in human sera after the injection of salvarsan in healthy individuals. In cases of dementia paralytica, the Wassermann reaction was turned by salvarsan from positive to negative, but in spite of this negative reaction, the cases grew worse and worse. Therefore, salvarsan has an effect on the serum other than killing spirochætæ and thus also on the Wassermann reaction. In doing Wassermann reactions for several successive days on the same serum it will often happen that the reaction is negative on the first day, nega-

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tive on the second day, negative on the third day, and positive on the fourth day—or a serum might be negative to several antigens and positive to one. Therefore any quantitative value of a Wassermann reaction is out of the question.

(*Ibidem*, Nov. 2, 1912, xxxviii, No. 47.)

### Technique for the Use of Concentrated Mercury Mixtures in the Treatment of Syphilis. K. ZIELER, p. 2211.

The introduction of salvarsan has taught us that our treatment of syphilis heretofore has not been vigorous enough. The intramuscular injection of mercury in insoluble form gives an energetic and long continued effect. Zieler uses very concentrated mercury preparations—either gray oil or a 40% calomel, and claims they can be used without harmful consequences if employed as he outlines. The essentials are:

1. An absolutely dependable preparation.
2. Special instruments that will allow passage of concentrated mixtures.
3. Inject deep into the muscles.
4. Remove the syringe from the needle after insertion to see if a blood vessel has been pierced.
5. If indurated nodules form after the first two or three injections, the injections with the concentrated mixtures must be stopped.
6. Never use the same site more than once for injections.
7. Inject every 5 or 6 days until five injections have been given—then every 8 days. Strong patients get 0.1-0.14 Hg. and weaker ones from 0.07-0.1 Hg.
8. In kidney, intestinal and liver diseases; in alcoholics, lead workers, tobacco users, in old people, cachectics, gouty patients, arterio-sclerosis, tuberculosis and in pregnant women with kidney disturbances, gray oil should never be used.
9. Careful controls of kidney and intestinal efficiency must be kept.
10. These rules refer to 40% calomel injections as well as to those of gray oil.

### Directions for the Use of Carbon Dioxide Snow in the Treatment of Skin Diseases. HANS L. HEUSNER, p. 2220.

Heusner gives a short historical sketch of the use of carbon dioxide snow. Then the author goes on to describe several forms of apparatus used for getting and moulding the snow.

(*Ibidem*, Nov. 28, 1912, xxxviii, No. 48.)

### The Treatment of Psoriasis. ALFRED JUNGSMANN, p. 2249.

In treating psoriasis the general condition and the age of the patient must be considered, as well as the acuteness, subacuteness or chronicity and distribution of the disease. The factors to be considered in treatment are diet, internal medication, external medication, and the physical characters. As regards diet, Jungmann says he does not prohibit meat, but reduces the amount and gives fat people a weight reducing cure. Uric acid diathesis, diabetes and rheumatic conditions must be treated—a sojourn in one of the German Spas is beneficial. Internally he uses arsenic either by mouth or subcutaneously. Other drugs taken internally are secondary in importance to arsenic. A 25% iodopin may be used by subcutaneous injection. A combination of potassium iodide and arsenic, such as arsojodin taken in tablet form, is beneficial. Thyroid treatment is also efficacious at times. Externally, anti-parasitides such as tar,

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chrysarobin or pyrogallol, and ammoniated mercury are used. Combinations of chrysarobin or pyrogallol, as eurobin, lenirobin, eugallol, lenigallol or saligallol are useful. Scales must be removed before the local medication is applied. This can be done by means of salves, plasters and soaps containing anthrasol or sulphur. Baths, as steam-baths, hot-air baths and light baths, are employed to promote sweating. Roentgen rays are used successfully. Minute directions are given for the local use of the drugs and the X-rays. Other light treatment is also discussed—Finsen Light, uviole light, Kromayer quartzlamp, and sunlight. The light therapy should be used only as a last resort if the other methods of treatment fail.

### JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY.

(Nov., 1912, xviii, No. 11.)

Abstracted by CLARENCE ALLEN BAER, M.D.

#### **Epithelioma of the Tongue.** W. A. GUILD, p. 440.

As there are other predispositions or tendencies, so surely is a tendency to malignant disease inherited. The patient having cancer in any form has either a low degree of immunity to start with, or from various causes suffers a great loss of normally strong immunity. The extreme malignancy of epithelioma of the tongue is peculiar. The tongue's soft vascular structure and supply of proximate lymphatics prove favorable for cellular invasion and metastasis. Its inaccessibility for treatment is a factor. The disturbance of the masticatory function and the ever-present mental picture and extreme worry caused thereby enter into its fatality. Partial excision does not check the growth. Amputation of the tongue and dissection of the glands does sometimes give a few months' reprieve. Yet all surgical efforts eventually prove futile. The author believes the dermatologist to be the logical man for treating cancer of the tongue. A list of drugs and methods of procedure against epithelioma of the tongue are given.

### ACTAS DERMO-SIFILOGRAFICAS.

(February and March, 1912, No. 2.)

Abstracted by A. RAVOGLI, M.D.

#### **Neosalvarsan; First Clinical Impressions.** JUAN DE AZUA, p. 107.

This article has been abstracted from the REVISTA CLINICA DE MADRID, in THE JOURNAL, November, 1912.

#### **Medicated Bandages.** ROCAMORA, p. 156.

The author strongly recommends the employment of aseptic bandages in the treatment of catarrhal and pyodermic affections of the skin. Pastes, ointments, lotions, etc., are to be prepared under aseptic precautions and spread upon sterile muslin before being applied to the diseased skin. On account of the difficulty of preparing such aseptic applications, the author believes it a good practice to use bandages coated with gellantin, dry powders and various other remedies, these bandages being more readily sterilized.

#### **Tremors of Syphilitic Origin.** COVISA, p. 159.

The article deals with the case of a man of 26, who had been infected with lues six years previously and was suffering with a semiparalysis of the right leg,

nocturnal cephalalgia and facial paralysis; these symptoms were in part relieved by gray oil injections and electrical treatment. One year later, he returned with a tremor of the right arm. After a course of calomel injections, followed by two intravenous infusions of salvarsan, the tremor disappeared, showing it to have been due to cerebral syphilis.

**A Case of Universal Alopecia Areata, Occurring in the Course of a Syphilitic Infection, Cured after Two Injections of Salvarsan.** SAMPELAYO, p. 161.

It is the author's belief that a certain relation exists between area celsi and syphilis. He cites the case of a man of thirty who was infected with lues, shortly after which his hair fell out in spots; three weeks later, these bald spots had coalesced, causing a complete alopecia, not only of the scalp, but also of the eyebrows, beard and body. The growth of hair returned after two salvarsan treatments. In the opinion of Regidor and Azua, no relation exists between alopecia areata and syphilis.

**Treatment of Neuro-recurrences in Patients under Salvarsan Treatment.** SAINZ DE AJA, p. 164.

The purpose of the article is to discuss the question whether neuro-recurrences are more frequent after salvarsan treatment than they are under mercurial régime. The fact that patients with nervous symptoms are more likely to seek the aid of the neurologist than the dermatologist, makes the collection of statistics on this point somewhat difficult. However, in the author's experience, more neuro-recurrences take place after salvarsan than after mercury. Facial paralysis comprises about 50% of the neuro-recurrences; then come the affections of the acoustic and the trigeminal nerves. The facial paralysis is usually very stubborn, while the acoustic and trigeminal lesions are frequently relieved by salvarsan, mercury and iodides. The cause of the neuro-recurrences is to be found in insufficient salvarsan treatment; patients receiving the proper amount of treatment do not get neuro-recurrences. The neuro-recurrences take place during the secondary stage of the disease and the gravity of the symptoms is not in direct relation with the severity of the infection.

The fact that the lesions of the cranial nerves occur only in the secondary period points to the probability that the cause of these lesions is to be sought in the nerves themselves and is not to be ascribed to the action of the salvarsan. The disturbances are caused by the action of the spirochætae on the nerve substance, not to the effect of the salvarsan itself.

In the treatment of neuro-recurrences, the author does not believe in the use of salvarsan, but recommends the old treatment with mercury and potassium iodide. He has observed the best results from this procedure.

**The Treatment of Nodular Cutaneous Tuberculides by the Method of Bier.** SAINZ DE AJA, p. 171.

The author has employed this method of treatment in limited areas of skin afflicted with papulo-necrotic tuberculide. He employed small suction cups, applied twice a day for thirty minutes at a time. Internally, the patients received cod liver oil with iodine; this treatment, combined with injections of cacodylate of sodium and the local application of emplastrum Vigo, produced a resolution and cure of the lesions.

**Osteo-arthritis of the Elbow of Syphilitic Origin; Mitral Insufficiency.** COVISA, p. 172.

A patient infected with syphilis since four years was suffering from a generalized arthritis, the elbow joint being the most severely attacked. There was



also an area of necrosis of the left parietal bone. On account of the presence of a mitral insufficiency he hesitated in administering salvarsan, but finally decided to try it, in spite of the valvular lesion. The patient showed such a marked improvement that eight more infusions were given him, followed by injections of gray oil, the patient leaving the hospital cured.

**Syphilitic Neuro-recurrences after Salvarsan in a Patient with Secondary Syphilis.** JUAN DE AZUA, p. 174.

The neuro-recurrences consisted of double facial paralysis, labyrinthitis, partial paralysis of the oculo-motor nerve and diffuse meningeal symptoms. A young man, who was infected with syphilis two and a half months ago, presented a hard chancre, bubo and osteo-periostitis of the chondro-sternal joints and of several ribs. There was great improvement after a single injection of salvarsan and several injections of gray oil. Thirty-four days later, the patient returned with severe headaches, facial paralysis, loss of the sense of taste and deafness in both ears. Examination of the ears showed the presence of labyrinthine disease. He received an infusion of four decigrammes of salvarsan, causing a prompt improvement in all the symptoms; there was a marked reaction following the infusion. A third salvarsan infusion was then given. Soon after, the patient again returned with a severe recurrence of his neuro-pathic symptoms. He was then given intravenous injections of one centigram of cyanide of mercury; after thirty-one of these, he developed a stomatitis which necessitated the discontinuance of the treatment. Two months later, the hearing power was restored, there were no more vertigo and nystagmus and the facial paralysis was improved. The author believes that these neuro-recurrences would have been avoided had the patient received more than one or two salvarsan injections at the commencement of the treatment. His conclusions are: (1) That the meninges retain the arsenical preparation for a much shorter period than the skin and mucous membranes. (2) That the spirochætae in other organs migrate to the meninges because they find there a field free from therapeutic attacks. (3) That in this therapeutic defence lies the method of preventing affections of the nervous system.

**Syphilis in the Second Generation.** SAINZ DE AJA, p. 182.

The author believes that syphilis becomes modified by transmission, that its virulence seems somewhat diminished, either from attenuation of the spirochætae or by changes in the system of the host. In a family which he had under his care, the mother became pregnant fourteen times; aside from the abortions, a number of viable children died of various diseases, only three children reaching beyond one year of age. Three children are still living; one of them, a man partially blind and deaf, was married and had eight children, seven of which died *in utero* or prematurely; one child, six months old, now shows all signs of degeneracy. The father is still suffering with syphilitic ulcerations and his Wassermann reaction is still positive.

CLINICA DERMO-SIFILOPATICA DELLA R. UNIVERSITA DI ROMA.

(October, 1912, xxx, No. 111.)

Abstracted by A. RAVOGLI, M.D.

**Pemphigus Chronicus and the Central Nervous Alterations Arising from the Same Cause.** CAMPANA, p. 109.

The author speaks of the intimate relations existing between the skin and the nervous system, both derived from the same blastodermic membranes. He refers, too, to the anomalies of pigment of the skin as the result of affections

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of the small ramifications of the underlying nerves. The cause of these manifestations is to be sought in the presence of a probable luetic infection of the patient. The anomalies of the epidermis, as in epidermolysis bullosa and other affections of the epidermis also seemed to be connected with possible lues. The same may be said of cases of pemphigus, taking into consideration the disposition of the eruption, the degree of infiltration in the derma, the septic condition arising from the disease, the existence of morbid localizations in other organs and the beneficial effects of the mercurial remedies; all these factors suggest the possibility of a luetic origin.

Campana reports three cases of pemphigus in adults, in whom syphilis also was present. In one who died of gangrene, the autopsy showed inflammation of the meninges, the liver showing alterations known as "nutmeg liver." The vascular system showed arterio-sclerosis. He states that he would consider "pemphigus of adults in many cases to be a syphylloid, the central nervous lesions usually coexisting with pemphigus, to be effects of the same cause." The author believes that there is a very intimate relation between the arterio-sclerosis of advanced age and the occurrence of pemphigus.

### **Alopecia Areata in Heredo-syphilitics.** TERZAGHI, p. 118.

The author relates the case of a child of ten months, with clear stigmata of hereditary syphilis and having a thin and glossy scalp, entirely destitute of hair. The scalp was adherent to the underlying, prematurely ossified and roughened skull. He concludes that alopecia areata in these cases is the result of an abnormal condition of the circulation, due to luetic osteo-periostitis.

### **The Influence of the Bacillus Pyocyaneus in a Necrotizing Syphiloderma.** GARIBALDI, p. 121.

A young woman presented a syphilide of the thigh, showing bullous and ulcerative lesions. The affection was accompanied by high fever and the ulcerations were discharging a bluish-green, purulent material. Under sublimate dressings the suppuration decreased, but the bluish-green color of the discharges persisted. Bacteriological examination proved a secondary infection with the bacillus pyocyaneus.

### **Alcoholic Aromatic Substances Suspended in Foaming Mixtures for Local Therapeutic Purposes.** GALIMBERTI, p. 128.

The author discovered that foaming substances seemed to favorably influence the course of superficial cutaneous lesions. He experimented with the white of eggs beaten up with alcohol and alcoholic liquors. He produced excoriations on the skin of various animals and covered the lesions with these foaming preparations, making daily observations of the action of the remedy. He concludes that the beneficial action results from the fact that the preparation has a tendency to maintain the cohesive power between the tissues and the elements of the various tissues, thereby favoring their repair.

## **NOUVELLE ICONOGRAPHIE DE LA SALPÊTRIÈRE.**

(1912, No. 1.)

Abstracted by J. S. EISENSTAEDT, M.D.

### **The Co-existence of Recklinghausen's Disease and Acromegaly.** CASTRO.

The author cites the case of a male patient, thirty-three years of age, a native of Brazil, whose history is free from hereditary, luetic and alcoholic taint. As a boy he suffered from multiple ulcerations over his entire body, which persisted

until he was seventeen years old, to be then replaced by nodules. His present condition shows about sixty-seven nodules scattered over his entire body, most of which are of small size. A larger one is situated over the sternum. The lesions are most numerous on the upper extremities and thorax. They are hard, painless and of uneven surface. The nodules are somewhat darker than the surrounding skin, and though freely movable, are partly attached. On the back are many pigment spots. The only subjective symptom is itching. The head and hands are markedly acromegalic, there is scoliosis dextra, the knee jerks are absent and the patient complains of diffuse headache, pains in the extremities and general asthenia. Atrophy of both optic nerves is present but is more marked in the left. The left visual field is restricted on the nasal side. The tumors are fibromata and the nervous condition is definitely acromegaly.

#### DEUTSCHE ZEITSCHRIFT FÜR NERVENHEILKUNDE.

(1912, xliv, No. 4.)

Abstracted by J. S. EISENSTAEDT, M.D.

#### A Contribution to the Study of Scleroderma. DONATH.

The author reports two cases of scleroderma, the first occurring in a woman, aged forty-one years, who had never menstruated; the parts involved were the head, neck, breast and the extremities; the finger nails had repeatedly exfoliated. Her early history shows little that is unusual, excepting a marked idiosyncrasy against thermal changes. The X-rays show general atrophy and osteoporosis of the bones of the forearms and of the hands and marked calcification of the radial arteries. The administration of fibrolysin and thyroid substance occasioned but little improvement. In the second case, there was marked improvement after the use of thyreoidin, which was lasting. This, the author says, suggests the relationship between scleroderma and thyroid lesions.

#### BULLETIN ET MÉMOIRES DE LA SOCIÉTÉ MÉDECAL DES HÔPITAUX.

(1911, No. 24.)

Abstracted by J. S. EISENSTAEDT, M.D.

#### Pruritus and Urticaria in Tabes. MILIAN.

The author has heretofore described two types of pruritus in tabes: simple pruritus without dermal lesions and a type associated with lichenification of the skin. The third type now described is pruritus in tabes associated with erythema and urticaria. The patient was a woman who had for years shown typical signs of tabes, loss of tendon reflexes, Argyll-Robertson pupil, Romberg's sign and definite bladder crises. Her luetic infection dates back thirty-six years. For two months she complained of severe pruritus over the nates. On examination, no excoriations were present; however, friction over this area caused many urticarial lesions to appear. These lesions were arranged along the folds of the skin and disappeared under pressure. They lasted but two or three minutes. Under increased pressure the lesions again became more evident and appeared as true wheals. Some were surrounded by a white anæmic zone. Besides these lesions the patient showed marked dermatographism. The author believes that the mere occurrence of pruritus in tabes is not unusual.

## NEUROLOGISCHES CENTRALBLATT.

(Sept. 1, 1912.)

Abstracted by J. S. EISENSTAEDT, M.D.

**Syphilitic Polyneuritis.** HOFFMAN.

True syphilitic polyneuritis occurs exclusively during the secondary stage, coincident with the exanthema, adenopathy and angina, usually between the third and eighteenth month after infection. It is a toxi-infective condition and closely resembles any ordinary polyneuritis. Perhaps it affects the upper extremities more frequently than the lower, and occasionally progresses to ataxia, pseudo-tabes, and to bladder and rectal difficulties. Specific polyneuritis is to be differentiated from the familiar neuritis of the paralytic stage, which is secondary to localized syphilitic meningitis.

Hoffman describes a case in which sensory symptoms in the extremities preceded motor symptoms by some months; the peripheral nerves became definitely thickened (interstitial neuritis). The pupils and optic nerves were normal, the Wassermann reaction was strongly positive and there was a marked lymphocytosis in the cerebro-spinal fluid. Under energetic anti-specific treatment great improvement was noted.

## BRITISH JOURNAL OF CHILDREN'S DISEASES.

(Oct., 1912, ix, No. 106.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**The Blood-pressure in Scarlet Fever.** ROLLESTON, p. 444.

From the observation of 122 cases Dr. Rolleston concludes that the determination of the blood-pressure has no prognostic significance during the acute stage of scarlet fever. In the convalescent stage, it is useful in the detection of renal insufficiency and in the determination of the probable degree of damage.

**Hypersensitiveness.** GOODALL, p. 436.

Our earlier conceptions of anaphylaxis, or hypersensitiveness, were derived almost entirely from the results of animal experimentation. Since the introduction of sera and vaccines into therapeutics, however, we have been able to study the phenomenon in the human being. The subject is of the greatest importance to the dermatologist, but space permits here only the briefest mention of the major points in Dr. Goodall's paper.

According to Dr. Goodall, the pre-eminently important laboratory conclusions to be remembered are; that anaphylaxis is caused solely by animal or vegetable proteins; that these proteins must be of foreign origin; *i.e.*, not from the animal itself, nor, with certain exceptions, from an allied species; that a certain time must be allowed to elapse after the primary (sensitizing) dose before giving the second reactive dose. On an average a period of a week or more is required for "incubation"; that the reactive (second) dose must be of the same substance as the sensitizing (first) dose although, in some instances, the serum from an animal of an allied species is reactive—for example, a primary dose of horse serum may react to a later dose of donkey serum; that the best method of creating anaphylaxis is by injection although it is also possible to produce the condition of feeding; that the young of a mother sensitized before or after conception (it is indifferent which) are congenitally anaphylactic; that the duration of anaphylaxis is not known but seems to vary with the animal.

Dr. Goodall states that the abnormal reaction of anaphylaxis must not be

confused with what he calls the normal. The latter is the reaction which occurs in susceptible individuals a week or more after a primary injection, rarely in less than six days, in the form of an urticarial rash, with or without fever, and with slight to moderate constitutional symptoms. The abnormal reaction of anaphylaxis on the other hand, is the effect of a second, "reactive" dose upon tissues prepared by a previous injection. The chief distinguishing mark is that the symptoms appear very much sooner after the reactive injection than in the case of a primary normal reaction. In some instances, indeed, the latent or incubative period of anaphylaxis, that is, the interval of time between the injection and the visible time of reaction, may be shortened to a few hours. It is interesting to note that Dr. Goodall, quoting von Pirquet and Schick, states that, in man, if the interval between the first and second doses is of shorter duration than the average latent period, the severe reactions of anaphylaxis do not appear. The shortest interval of latency in his own experience, which was followed by an abnormal (anaphylactic) reaction was eighteen days.

Closely related to the question of the length of the incubative period of anaphylaxis is the question of the possibility of conferring immunity by injections. If immunity can be created artificially it must be done, according to Dr. Goodall, either by means of repeated daily doses or by giving at least three injections at longer intervals. In the light of animal experimentation, the author draws the cheerful inference in regard to the latter that if the subject survives the second, or "reactive" dose he will therefore be immune.

It has not been determined how long anaphylaxis may endure. Dr. Goodall thinks that it may last throughout life and instances as suggestive, a case in which anaphylaxis still persisted after a lapse of seven years.

Nearly all of our information concerning human anaphylaxis has been derived from the numerous cases of serum sickness which have followed the use of serum injections in treatment and less frequent reactions from vaccines. For a long time the clinical facts have been a matter of common knowledge but an adequate explanation of the phenomenon has been lacking. The study of the anaphylactic condition promises to lessen that gap. As yet no explanation has been discovered in regard to what it is that constitutes "susceptibility." Why one particular preparation apparently exerts an anaphylactic action with greater frequency than a second preparation of the same substance; and what relation does the severity of the reaction bear to the preparation used and to the individual injected, are also questions still unanswered.

In his remarks upon the clinical side of the problem Dr. Goodall makes, among others, two suggestions which have especial interest for dermatologists. In one statement he calls attention to the fact that both the general and the cutaneous symptoms characteristic of anaphylaxis are strikingly similar to those characterizing, in particular, urticaria and erythema multiforme and therefore suggests that there may exist some ætiological relationship. A second suggestive statement is made that, according to his experiences, a surprisingly large proportion of the severe anaphylactic reactions to the first injection have occurred in patients subject to asthma or allied affections.

## MONATSSCHRIFT FÜR KINDERHEILKUNDE.

(1912, xi, No. 5.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### Delayed Appearance of Vaccination Sore in Measles. NEUMARK, p. 222.

As the opportunity of observing the influence of measles upon vaccination is largely a matter of chance, the case reported by Dr. Neumark acquires interest because of its rarity. The child, two years old, was vaccinated in four

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places on July 27th and at that time was apparently perfectly well. August 1st, five days later, a typical eruption of measles appeared. Eleven days after the vaccination, when the eruption of measles had disappeared, two of the inoculations showed reactions. In one of the two, the symptoms were comparable to those present on the sixth or seventh day in a normal case of vaccination.

Dr. Neumark compares this delayed reaction of vaccination in the incubation and eruptive stage of measles, to the similarly delayed reaction of tuberculin in the same stages.

### ARCHIVES DE MÉDECINE DES ENFANTS.

(Oct., 1912, xv, No. 10.)

Abstracted by HARVEY PARKER TOWLE, M.D.

#### **The Diet in Scarlet Fever.** DE BIEHLER, p. 759.

There has been a marked tendency in modern times to deny the usefulness of the old-fashioned milk diet in scarlet fever on the ground that it has a greater tendency to produce nephritis than a more liberal diet. Yet the results quoted by the writer fail to show that, in the absence of albuminuria and of nephritis, fewer cases of nephritis occur with the mixed diet, with or without meat, than when only milk is given.

As a result of her investigations, she advises an exclusive milk diet during the first ten or fifteen days, or until the fever has fallen definitively. During the second or third week, coffee, cocoa, eggs, vegetables, fruit and bread may be added but meat should not be given until the end of the fourth week and then only after a careful urinalysis. Albuminuria or nephritis of course demand an exclusively milk diet.

The writer believes that the diet has little influence upon the production of renal complications; as do many others. She also agrees with those who maintain that the children who receive a mixed diet issue from the disease in better physical condition than those who receive only milk. Nevertheless, as indicated, she believes that the milk diet has its place in the dietetics of scarlet fever and should not be abandoned.

### ARCHIVES OF PÆDIATRICS.

(Oct., 1912, xxix, No. 10.)

Abstracted by HARVEY PARKER TOWLE, M.D.

#### **Hæmophilia Neonatorum in a Family of Four Infants.** PITFIELD, p. 761.

The writer reports the case of four children, all of whom were bleeders. The parents were healthy in every way save that the mother showed a weakened resistance to infection, each confinement having been followed by puerperal fever. No evidence of syphilitic infection could be demonstrated in parents or children. The interest in the report lies in the fact that, warned by the three previous experiences, it was decided to anticipate and abort, if possible, in the fourth child the expected development of bleeding. Accordingly the infant was treated by the subcutaneous injection of human serum, after the method of Dr. Edgar Welch, on the second and third days. A total amount of 72 cc. was given in doses of from 4 cc. to 15 cc. with gratifying results. The icterus and the petechiæ disappeared and the infant gained steadily in weight and strength.

ARCHIVES OF INTERNAL MEDICINE.

(Nov. 15, 1912, x. No. 5.)

Abstracted by R. C. JAMIESON, M.D.

**The Pathogenesis of Purpura Hæmorrhagica with Especial Reference to the Part Played by the Blood Platelets.** W. W. DUKE, p. 445.

Duke found an enormously reduced platelet count in dealing with patients suffering with purpura hæmorrhagica of the type that tends to bleed from trivial abrasions of the skin or mucous membranes. This type has a much prolonged bleeding time, the severity of the disease being measured by the length of the bleeding time. This is determined by making a series of blots with the blood from a small cut, at half minute intervals. Normal bleeding time is from one to three minutes and is not considered moderately prolonged unless the twentieth blot is about one-half the size of the first. It is greatly prolonged if the twentieth blot is as large as the first.

He gives the results of his work in a number of cases in which the platelet count was from one to ten thousand. This count was increased in two cases after blood transfusion and was accompanied by decreased tendency to hæmorrhage. This tendency returned as the count diminished, such a result being noticed in all cases.

Large numbers of platelet counts were made in normal individuals; Duke believes that a count of forty thousand to seventy-five thousand is the low level at which there may or may not be an abnormal tendency to bleed.

**The Wassermann Test in the Tropics.** L. B. BATES, p. 470.

The author gives his experience with the test in connection with various diseases met with in the tropics. He found that some of his guinea-pig serum contained native anti-human hæmolysin and had to discard all such serum and all tests made with that serum.

He found that malaria does not affect the reaction (Noguchi modification) while negative results were obtained in all cases of filariasis, yellow fever, black-water fever and amœbic dysentery. Two out of three cases of yaws were positive and he found the reaction of great value in a number of cases of arthritis.

BULLETIN OF JOHNS HOPKINS HOSPITAL.

(xxiii, No. 262.)

Abstracted by R. C. JAMIESON, M.D.

**Further Observations on the Carcinoma Skin Reactions.** HANS LISSER and ARTHUR BLOOMFIELD, p. 356.

This work was undertaken by the authors in the hope of simplifying the carcinoma skin reaction test and all their work was done with blood corpuscles from what they term Group IV cases only—that is, red blood corpuscles which are neither hæmolysed nor agglutinated by any sera *in vitro*. Their work was done on 62 verified cases of malignant disease and on 94 cases of healthy individuals or patients suffering from non-malignant diseases.

The corpuscles used were always obtained from the same patient, who, it had been determined, belonged to Group IV. One-third to one-half cc. of a 20% suspension, properly prepared within twenty-four hours, was injected subcutane-

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ously in the flexor surface of the forearm, according to the technique stated. The reaction appears in from three to five hours later and increases up to six or eight hours. Fully developed, the lesion is irregularly oval, well defined, from 1 x 2 cm. to 3 x 5 cm. in size, brownish red to maroon with sometimes a bluish tinge, distinctly raised, slightly boggy and often tender. After its disappearance the remaining lesion resembles an ecchymosis.

Negative cases show the point of puncture or a small flat area of varying color.

Care should be taken to give the injection under and not into the skin and to avoid superficial veins.

In 62 cases of verified malignant disease, 66% were positive and in 94 control cases, 91.6% were negative.

They do not consider that a negative reaction adds weight to evidence against cancer, but a positive reaction is strong presumptive evidence in its favor.

### JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

(xv, No. 20.)

Abstracted by R. C. JAMIESON, M.D.

**“Sandfly Protozoön” Versus “Zeist” Theory.** LUCIUS NICHOLLS, p. 305.

Nicholls' article questions the conclusions drawn in a recent paper stating the results of the work of Drs. Sambon and Chalmers on the ætiology of pellagra. He believes that the arguments brought forward to support the “sandfly protozoön” theory could be used equally well to prove the “zeist” theory.

The fact that cornmeal quickly becomes mouldy he thinks is sufficient to explain the disease under certain conditions, especially where fresh stocks of this food are not available, where dampness and poor buildings prevail, and its appearance in spring when moisture and heat return to the atmosphere. He thinks the above conditions would also explain the disease among fishermen and its disappearance where the hygienic conditions were improved.

**Experiments with Culture Media Suitable for Use in Tropical Countries.**

CHEIGHTON WELLMAN and ALBERT HAND., p. 306.

The results of these experiments should be of value to tropical workers as the authors give detailed information regarding the manufacture of dried nutrient agar, dried nutrient broth, dried blood serum and Wellman's placental agar.

The first three will keep for a year at least and will readily dissolve for use when needed.

**Pigmented Maculæ on the Body.** R. H. CASTOR., p. 307.

Castor has examined three thousand cases for this condition, finding pigmented areas in 57% of the cases, more in the male than in the female, especially in those under one year of age. They are more common in the very young. The patches vary greatly in size, most of them being fairly large, but they have no uniform shape while the color is that of a departing bruise. They are usually multiple and tend to disappear between the third and fourth years.

This is offered as a statistical study and the author later intends to furnish statistics on pigmented lips.



## BOOK REVIEWS.

**Diseases of the Mouth; for Physicians, Dentists, Medical and Dental Students.**

By PROF. DR. F. ZINSSER, Director of the Department of Dermatology at the City Hospital, Lindenburg; Dozent at the Academy for Practical Medicine, Cologne. Translated and Edited by JOHN BETHUNE STEIN, M.D., Professor of Physiology at the New York College of Dentistry, Late Instructor in Genito-urinary Diseases at the College of Physicians and Surgeons (Medical Department of Columbia University), New York City. With 52 Colored and 21 Black and White Illustrations. *Rebman Company*, New York. Price, \$7.00.

The sub-name of this work, "Syphilis and Similar Diseases of the Mouth," more clearly expresses the character of its contents than does the above title. It is a well-written, beautifully illustrated work, and to the dermatologist especially forms a very valuable supplement to his library of cutaneous diseases and syphilis. Lesions within the oral cavity frequently are a source of considerable speculation and doubt to the most astute diagnosticians and a thorough knowledge of the clinical appearance of such lesions can be gained only by the observation and the study of many cases, extending over a large number of years. The first sixty-seven pages are devoted to a very clear exposition of the oral lesions of primary, secondary, tertiary and heredo-syphilis, the two last chapters dealing with diseases similar to secondary and tertiary syphilis, in which the various differential diagnoses are ably discussed. Much credit is due to the editor and translator for the additional data which he has parenthetically inserted into the author's original text; these supplementary remarks referring chiefly to the recent advances made in the serological and bacteriological discoveries in the realm of syphilis.

It is in the colored charts, however, that the chief value and interest of the book lies. These pictures are remarkable in their vivid representation of the various luetic and non-luetic affections of the lips and the oral cavity, and with their accompanying descriptive texts, comprise a highly instructive series of plates. A number of half-tone illustrations depicting heredo-syphilitic lesions of the teeth have been included as a supplement to the original series of plates. Of especial interest to the dermatologist are the colored illustrations of an antipyrin exanthem of the tongue, lichen ruber planus of the buccal mucosa, the various types of tuberculosis of the lips and oral cavity and the numerous tonsillar and pharyngeal lesions which are likely to be mistaken for syphilitic manifestations. The text is lucidly written, in large, clear type.

F. W.

**Die Vaso-motorisch-tropischen Neurosen.** Eine Monographie von DR. R. CASSIRER.

Second revised and improved edition with twenty-four plates and twenty-four illustrations in the text. *S. Karger*, Karlstrasse 15, Berlin, 1912.

This is a very extensive volume comprising almost one thousand pages of text concerning the vaso-motor trophic neuroses from the standpoint of the neurologist. The book is divided into seven main chapters. The first concerns the anatomy and physiology of the vaso-motor centres and tracts. The second is a most interesting chapter on the acroparæsthesias and allied conditions, such as Heberden's nodes and vaso-motor-ataxia. The third chapter is an extensive description of the ætiology, symptomatology, course, pathological anatomy, and differential diagnosis, etc., of erythromelalgia. The fourth chapter devotes over two hundred pages to Raynaud's disease with the short addition of thirty pages devoted to acroasphyxia chronica. The fifth chapter is devoted to the subject of scleroderma. The sixth chapter relates to acute and circumscribed œdema,

and the seventh to multiple neurotic gangrene of the skin. At the end is a most excellent bibliography to each of these chapters.

The book has an especial interest for dermatologists as well as neurologists. The plates are not very numerous, the book being almost completely solid text. For the most part the plates are X-ray photographs showing the changes in the phalanges of trophic nature.

Although the volume treats of the very limited field of neurology as well as the very small part devoted to cutaneous disorders, it is nevertheless a very valuable text in its thoroughness and in that it is a clear exposition of the subject matters without any objectionable dogmatism.

U. J. W.

**Lehrbuch der Haut-und-Geschlechtskrankheiten.** Herausgegeben von PROFESSOR DR. EHRLARD RIECKE, Leipzig. Second improved and revised edition with 17 colored plates and 307 pictures in the text. *Gustav Fischer*, Jena, 1912.

Török, Grouven, Tomaszewski and Jesionek. Gonorrhœa and chancroid are treated in one hundred pages by Professor Bruhns, and the chapter on syphilis, comprising over one hundred pages, is excellently written by Professor Buschke.

The various subjects are presented in an orderly fashion, with a brief note on the histopathology in each case. As in most German works, the colored plates are excellent, as are also the half-tone illustrations with which the volume

In this second edition, Riecke and his collaborators have put out a most attractive volume on cutaneous medicine, including also syphilis and gonorrhœa. The volume is divided into three main divisions. The chapter on general dermatology, including anatomy and physiology, is by Professor Riehl. The second division includes over four hundred pages devoted to special dermatology by the various collaborators, among whom are Ehrmann, Riecke, Bettmann, von Zumbusch, is richly provided.

The book recommends itself not only for students but for practitioners and specialists as well. The illustrations accompanying Buschke's article on syphilis are particularly beautiful, and the treatment with the new arsenobenzol therapy is briefly, although thoroughly, discussed.

U. J. W.

**Atlas of External Diseases of the Eye for Physicians and Students.** By DR. RICHARD GREEFF, Professor of Ophthalmology in the University of Berlin and Chief of the Royal Ophthalmic Clinic in the Charité Hospital. Translated by P. W. SHEDD, M.D., New York. Eighty-four illustrations in color from wax models printed on 54 plates with explanatory text. The illustrations are from models in the Pathoplastic Institute in Berlin. Art Director, F. KOLBOW. *Rebman Co.*, New York.

This atlas will prove of as much value to the dermatologist as to the ophthalmologist, for it embraces nearly all the diseases of dermatological interest that may affect the eye. The more important dermatological diseases illustrated and described are: syphilis, leprosy, erysipelas, anthrax, cyst, molluscum contagiosum, tuberculosis, the exanthemata and xeroderma. In addition, many diseases are mentioned with which we should be familiar because of their diagnostic importance. The plates are excellent, although perhaps a little highly colored. The descriptive matter consists of a short explanation of the disease, with a diagnosis, ætiology and therapy. From a dermatological standpoint it would be of value to add to the text such subjects as dermatitis medicamentosa, dermatitis venenata, pemphigus, etc. It must be remembered, however, that the work is an atlas and not a text-book.

Atlases of cutaneous diseases, when the illustrations are as excellent as in this

work, offer considerable aid to the teaching of dermatology, and this book will fill a vacant place in dermatological libraries.

The work is well bound and the paper is of the best quality. It is a credit to the author, to the translator and to the publisher.

G. M. M.

## NOTICES.

XVII<sup>TH</sup> INTERNATIONAL CONGRESS OF MEDICINE

LONDON: AUGUST 6-12, 1913.

*Central Offices, 13 Hinde Street, London, W.*

*Dear Sir:*

On behalf of the staff of the Section of Dermatology and Syphilography of the XVII<sup>th</sup> International Congress of Medicine, we beg to inform you that the Congress will take place in London from August 6 to 12, 1913.

We hope that we shall be honored by your presence at the Congress and that you will take part in its proceedings either in the discussions, a list of which we enclose, or by contributing a paper on some subject connected with the Section.

The meetings of the Section will be held at the Medical School of St. Thomas's Hospital, which is one of the most central situations in London.

In addition to the discussions and papers there will be a museum of models, drawings, photographs, and microscopical and bacteriological specimens of dermatological interest.

Each morning there will be a demonstration of selected cases to illustrate the types of cutaneous diseases prevalent in this country, which it is hoped will prove a specially attractive feature of the Congress.

The Acting-Secretary of the Section will be glad to receive the titles of papers by the beginning of 1913.

We are, yours faithfully,

MALCOLM MORRIS,

*President of the Section.*

J. M. H. MACLEOD,

*Acting-Secretary of the Section.*

**Section XIII.—Dermatology and Syphilography.**

PRESIDENT

SIR MALCOLM MORRIS, K.C.V.O., F.R.C.S.Ed.

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J. M. H. MACLEOD, M.D.

J. H. SEQUEIRA, M.D., F.R.C.P., F.R.C.S.

SUBJECTS FOR DISCUSSION, AND REPORTERS

Thursday, August 7th. Epithelioma of the skin, benign and malignant. By DR. J. A. FORDYCE and PROF. JOSEPH JADASSOHN. A paper will also be read by DR. JEAN DARIER.

Friday, August 8th. Alopecia areata and allied conditions. By DR. R. SABOURAUD and DR. P. G. UNNA.

Saturday, August 9th. Syphilis: its dangers to the community, and the question of State control. (Jointly with Section XIX, 3.) By PROF. ERNST FINGER and PROF. EDMUND LESSER.

Monday, August 11th. The treatment of syphilis by salvarsan and allied substances. (Jointly with Section XX, 7.) By PROF. PAUL ERILICH and PROF. ALBERT NEISSER. This meeting will take place at the R.A.M. College at Millbank.

Tuesday, August 12th. The vaccine treatment of the diseases of the skin. By PROF. T. C. GILCHRIST and PROF. ARTHUR WHITFIELD. The meetings of the Section will be held at the Medical School of St. Thomas's Hospital.

#### THIRTY-SEVENTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The thirty-seventh annual meeting of the American Dermatological Association, in conjunction with the session of the Congress of American Physicians and Surgeons, will be held in Washington, D. C., May 6th, 7th and 8th, 1913. The headquarters of the Association will be at the Shoreham Hotel, corner 15th and H Streets, N. W., where the meeting will be held and members can secure rooms while in attendance.

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#### NEWS ITEM.

#### CHAIR OF DERMATOLOGY AT THE COLLEGE OF PHYSICIANS AND SURGEONS.

We hear with regret of the resignation of DR. GEORGE T. JACKSON from the Chair of Dermatology at the College of Physicians and Surgeons of Columbia University. Dr. Jackson has given thirty-one years of continuous service to this institution; first, as Clinical Assistant, then Instructor, and, during the past five years, as Professor of Dermatology.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

MARCH, 1913

NO. 3

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## EDITORIAL.

### THE COMPULSORY NOTIFICATION OF VENEREAL DISEASES.

THE Department of Health of New York City evidently proposes to take venereal diseases of all kinds under its care. The first step, taken some time ago, was making free Wassermann examinations for any one, rich or not, though our public institutions are doing them free for the poor, though their cost is small, and though they form an important source of income to a number of physicians. The second step, the establishment of stations for the free administration of salvarsan, was attempted, but is still unaccomplished on account only of a failure to obtain the necessary money from the City. The third and fourth steps, in the shapes of an order to the medical attendants of our public institutions and a request to the profession at large to report in full detail to the Board of Health all cases in any way referable to venereal disease of any kind, have now been taken. It is an open secret that general compulsory notification and finally the relegation of the treatment of the great mass of these cases to the Health Department is contemplated. The notification blank accompanying the last orders requires the fullest details of the cases, including name and address and probable source of infection. It demands the reporting not only of syphilis, gonorrhœa and chancre in their actively contagious stages, but also their remote effects in the shape of gonorrhœal arthritis, late and heredo-syphilis, etc., and presumably, also, all the internal and special organ affections occasioned by these infections. It will be evident at once how very large this additional field is, and how serious an invasion of the ever narrowing field of private practice it threatens to be.

It is to be hoped that this scheme of the New York City Health

Board will not succeed and that it will meet with the determined and united professional opposition that it deserves. The subject is too large a one to be adequately dealt with here, but the most cogent objections to it may be summarised as follows:

1. Venereal disease, though unjustly, is a reproach and a stigma; a knowledge obtained of it through professional sources is pre-eminently confidential and should not be placed on public, or semi-public, or even private record except with those immediately concerned with the care of the case and bound by the professional and legal obligations of absolute secrecy. It is a confessional matter as sacred as admissions made to a priest; and it is just as binding in the case of an unfortunate pauper as in that of the richest citizen in the land.

2. Venereal infection may be the ground of damage or divorce suits and the practitioner, whether in public or in private work, should not be compelled by law to put himself on record for a diagnosis which, after all, is merely an opinion and may be a mistaken one.

3. A large proportion of venereal cases are infected through no fault of their own; yet the public does not and can not discriminate between them and a perfectly innocent individual, as a heredo-syphilitic child may thus have a permanent and unjust record made against him.

4. The profession has little faith in the declaration of the New York Board of Health that these records are to be kept private; it is doubtful if this can be legally done in a municipal department; and if it can be legally done now, new laws, or new Court interpretations of old ones, or a change in the personnel of the health authorities may at any time rend the veil of secrecy. The "dossier" is there, officially and permanently; and though the names and addresses of private cases are not as yet demanded, they will be required eventually if the designs of the Health Department are carried out.

5. The mere compiling of statistics in these diseases is meaningless and useless, as the experience of places where it has long been done has shown. We may credit the New York Board of Health with knowing this: the present attempted measures have value only as preliminary steps towards official control and official treatment of venereal cases.

6. The functions of a board of health are preventative and not therapeutic: for the reason that prophylaxis on a large scale is necessarily a communal affair. Until the time comes, if it ever does,

that the community recognises an obligation to take care of all its morbidity and not merely of the sick poor, a municipal or State department has no more right to supply free medical care to those who are able to pay for it, than it has to tender free legal services to every suitor, or free coal to every house-holder.

7. Finally, the ultimate effect of regulation as now proposed will be to relegate not only venereal practice in the more restricted sense of the term, but all the multitude of remoter affections derived from or dependent on them, to the less reputable and law-abiding members of the profession, or to those outside professional bounds, or to communities where the confidential relationship of physician and patient is respected by the authorities. Our eyes will again be offended by "Big G" and "Triple S": for these medical advisers will defy boards of health, and the patients will not report themselves. The end gainers from such measures will be the quacks and patent medicine vendors and the ultimate losers the sufferers themselves.

On the grounds, therefore, of its being an unwarranted restriction of personal liberty, an official infringement of professional relations of the most confidential nature, a possible source of law-suit and blackmail, an economic injury of the severest kind to the long-suffering medical profession, as well as tending directly to promote deceit, quackery and self-medication by nostrums to the injury of the patients, we object strenuously to the proposed measure. Let us hope that the profession will be a unit in opposition to it.

WILLIAM S. GOTTHEIL.

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#### A NEW DEPARTMENT.

THE JOURNAL has from time to time been criticised for its apparent neglect of the strictly practical side of our specialty as opposed to the more purely scientific aspect. If, in the recent past, we have appeared to favor the latter, this has been due to no editorial bias but to the simple fact that the vast majority of original articles and reviews received by us and deemed worthy of publication have dealt with histopathology, bacteriology and serology rather than treatment. Indeed, the number of really good articles dealing with the last-named subject have been, we regret to state, entirely too few in number. Thus the general tone of our monthly has

become such as to lead many of our readers to assume that articles on treatment are not desired by us. This idea is absolutely erroneous and we expressly invite such contributions, particularly those which are concise, crisp and to the point.

In order to encourage the study of the treatment of skin diseases and with a view to increasing the practical value of this publication to its readers, we inaugurate with the present number a new department, **DERMATOLOGICAL THERAPEUTICS**, under the supervision of **DR. WOOD MCMURTRY**. Here it is intended to study briefly the action of our most frequently used remedies, to discuss from time to time the treatment of various cutaneous affections and to review noteworthy therapeutic progress.

ED.

## THE SO-CALLED "ANNULAR SYPHILIS" OF THE NEGRO.

By **H. H. HAZEN, M.D.**, Washington, D. C.

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and of Freedmen's Hospital.

**T**WO distinct classes of eruption are included under the heading of annular syphilides; first, those lesions arising from the grouping of several papules, and, secondly and more properly, those arising from single papules. Reference is here made only to the secondary manifestations of syphilis; the circinato-tubercular syphilides are excluded, as are also the erythema multiforme of luetic origin, the so-called neuro-syphilides of Unna.

While a ringed form of secondary syphilis is mentioned in many of the older text-books and atlases of dermatology, Atkinson was the first to call attention to the frequency of the condition in the negro. He does, however, make one misstatement in his description. He writes: "The eruption has as its starting point the large, flat papular syphiloderm." This is not quite true, for the lesions may spring from any of the various types of papules, but more especially from the small, flat ones. Annular lesions are also occasionally found in hereditary syphilis, as both Schamberg's and Howard Fox's illustrations bear witness.



During the past seven years I have had the opportunity of observing many cases of annular syphilis, both at Dr. Gilchrist's clinic at the Johns Hopkins Hospital and at my own clinic at the Freedmen's Hospital in Washington. Of this series of 42 cases, 7 are from the service of Dr. Gilchrist and the remainder from my own service. Before I began keeping notes on all cases I saw a large number of others, but they differed in no way from those herein described.

**FREQUENCY.** Out of the last 1,250 consecutive cases of cutaneous diseases in the negro at the Freedmen's Hospital, there were 240 patients with acquired syphilis, of whom 140 were in the secondary stage of the disease. Ninety-one of these presented a papular form of the eruption and in 35 of these the lesions had become annular. There was, also, one girl with an annular "neuro-syphilide." These figures show a much higher percentage of annular syphilides than those of Fox, who states: "In my statistics obtained from the Johns Hopkins Dispensary, out of a thousand consecutive cases of skin disease in the white, there were 72 cases of syphilis, none of them presenting the annular form of the disease. In the corresponding 1,000 cases in the negro, there were 193 cases of syphilis, 11 of which presented examples of the annular syphiloderm."

**INFLUENCE OF AGE, SEX AND THE PERCENTAGE OF NEGRO BLOOD.** The average age of the patients with annular lues was 23. The youngest patient was 14 and the oldest 67. The average age of other patients with secondary eruptions was also 23. Of the 3 cases that had acquired syphilis before the age of 15, all were afflicted with the circinate type.

Nineteen males and 23 females had annular syphilis. Of the 140 secondary syphilitics, 69 were males and 71 were females.

Inasmuch as annular lues is very rare in whites it might naturally be thought that the disease would be more prevalent in the full-blooded negro than in the mulatto. But this is not the case. Of my 42 cases, 19 were in pure negroes, 14 were in  $\frac{3}{4}$  negroes, 6 were in  $\frac{1}{2}$  negroes and 3 were in  $\frac{1}{4}$  negroes, almost exactly the same percentage holding for all cases of acquired syphilis and, in fact, for skin diseases in general. By pure negro is meant one who has no visible admixture of white blood, who is very dark in color and who has the characteristic short, curly, stiff hair, commonly called "kinky." By a  $\frac{3}{4}$  negro is meant one who has a visible admixture of white blood, the negro blood predominating. By a  $\frac{1}{2}$  negro is meant one who has about an equal amount of the two kinds of blood. By a  $\frac{1}{4}$  negro is meant one in whom the white blood pre-

dominates. This mode of division is of course very arbitrary and in certain cases may lead one into serious error; when one reflects how Mendel's Law operates he can easily see how inaccurate this method is, and yet it seems the only practical one. No attempt has been made to separate the patients into the races from which they originally sprang. In the majority of cases this is clearly impossible owing to the admixture of tribes that has taken place in this country. The Yollofs and Caffres have features that are almost European, hence I have been guided by the color of the skin and the condition of the hair rather than by the other more or less characteristic features, namely, the thick protruding lips and the thick flat nose.

**CHARACTER OF THE ERUPTIONS.** All papular lesions, including the annular, spring from three types, namely, the follicular, the small flat papular, and the acuminate and semiglobular small papular. Clinically, however, the following division of papular syphilides is usually made.

- |                     |                                 |
|---------------------|---------------------------------|
| a. Follicular.      | { 1. Acuminate or semiglobular. |
| b. Small papular.   | { 2. Flat.                      |
| c. Large papular.   | { 1. Semiglobular.              |
|                     | { 2. Flat.                      |
| d. Papulo-squamous. |                                 |
| e. Papulo-pustular. |                                 |

Before a small papular lesion becomes annular it may first become either large and flat, or papulo-squamous.

The following clinical classification for annular syphilides is suggested.

- |                           |   |  |
|---------------------------|---|--|
| a. Follicular.            | { | 1. One papule extends peripherally and clears up in the centre.                                    |
|                           | { | 2. A number of papules form a round area, the central papules of which may or may not be absorbed. |
|                           | { | 3. Several papules form a ring.  |
| b. Small papular.         | { | a. Acuminate or semiglobular. {  |
|                           |   | { 1. One papule extends peripherally and clears up in the centre.                                  |
|                           |   | { 2. Several papules form a ring.  |
|                           | { | b. Flat. {   |
|                           |   | { 1. One papule forms first a solid, scaly circle, then clears up in centre.                       |
|                           |   | { 2. One papule rapidly clears up in the centre, the centre not becoming scaly.                    |
| c. Large papular, a Flat. | { | 1. One papule first forms a scaly solid circle, then clears in the centre.                         |
|                           | { | 2. One papule clears rapidly in the centre, the centre not becoming scaly.                         |
| d. Papulo-squamous.       |   | The lesion clears up in the centre.  |
| e. Papulo-pustular.       |   | Several lesions form a ring.   |

Follicular syphiloderms always tend to group, but in the negro there is a special tendency for them to form circles, usually about 2 cm. in diameter, the central papules of which rapidly disappear. The lesions are usually numerous and occur chiefly on the body and to a less extent on the arms. It is very unusual for one papule to form an annular lesion. However, I have seen one such case, the lesions being about 1 cm. in diameter and being on the face, body and arms.

An acuminate, small papular eruption very rarely becomes annular; much more commonly does the small flat syphiloderm tend to spread out. In a few cases it first forms a solid, scaly round lesion about 1 cm. in diameter, then the border becomes slightly more elevated and absorption starts in, either in the centre, or more often just within the outer rim. This rapidly continues until in from two to six weeks after the eruption is first noticed there is only the outer edge left. A part of this may be absorbed, leaving variously sized arcs. The fusion of a number will sometimes give grotesque figures. They vary in size, the diameter usually being from 1 to 2 cm., but may reach 10 cm. or even more. One lesion may form within another so that there may be rings within rings. The number varies; there may be one or there may be a hundred. They have a marked predilection for the face, especially around the angles of the mouth. It is common to see two or three semicircular lesions around the mouth and no other lesions, except condylomata.

So far as I know the large semiglobular papule does not form an annular lesion, although the possibility of its doing so must be admitted. The large, flat papules frequently result in annular lesions, running the same course as the small flat type of eruption.

The papulo-squamous variety may rarely form rings, but does so by the simple process of clearing up in the centre.

The papulo-pustular lesions may group themselves in a circle: this is more common in a recurrent eruption, but may occur at any time. The lesions usually occur upon the arms.

In my series there were 5 cases in which the annular lesions were derived from follicular papules, there were 24 instances of a small flat papular eruption becoming annular by extension and clearing up of the centre, 8 of the large flat papular type became annular, 3 papulo-squamous syphiloderms cleared up in the centre, while in 2 instances papulo-pustular lesions grouped themselves in a ring.

Twenty-two of the cases showed annular lesions upon the face only, 9 on the body only and 3 on the neck only. In the remaining cases both body, face and limbs were involved. One case showed

an annular lesion upon the lip and another case showed a lesion upon the tongue. Four of the cases showed one lesion only, 25 showed fewer than 10 lesions and 13 cases showed numerous eruptions.

As it is notoriously hard to get a truthful history from a negro patient it is often impossible to say how soon after the chancre this eruption appears. So far as I can ascertain it is usually within six months and so does not differ in time from the appearance of any other variety of secondary manifestation.

**PATHOLOGY.** There has been some discussion, but very little work has actually been done upon these annular lesions. Abraham and Davis, writing in Power and Murphy's System of Syphilis, state: "Unna includes these cases (the annular lesions) with the other annular and 'cockade' eruptions, in a distinct class—the neuro-syphilides. He maintains that they are the result of a paresis of the blood vessels induced by a syphilitic affection of the vascular nervous system and that they differ from other syphilides in the absence of plasma cells and of giant cells, as well as in their form, duration and resistance to treatment." This seems to be an erroneous interpretation of Unna's views. As I understand his position, he refers only to the erythema multiforme-like lesions usually coming on later in the course of the disease.

Nevertheless, it seemed best to study the question anew and the results of my investigations have been as follows:

The lesions arising from the follicular lesions differ in no way from the ordinary follicular papules: there is the same massive infiltration around the blood vessels, consisting largely of plasma cells.

The lesions arising from the small and large flat papules, that have become scaly, spread out and, then absorbed in the centre, are rather more interesting, for they differ in several ways from the usual papular lesions. Although the infiltration around the blood vessels is considerable, it is not nearly so massive as is usual in the commoner type of papules. However, the cells are nearly all plasma cells, especially in the older parts of the lesion. At the raised rim, both the horny layer and rete are distinctly thickened, the intra-papillary processes are elongated and there is a marked diminution of the pigment of the basal layer. The blood vessels and the lymphatics of the corium and papillæ are dilated and especially in the papillæ there is a marked infiltration of lymphoid and fixed tissue cells, with a few polymorphonuclear leucocytes and plasma cells. The whole rete and more especially the basal layer are invaded by the types of cell just mentioned, and the basal layer will not take stains well. In the central portion the most striking features are

the comparative absence of pigment and the numbers of plasma cells around the blood vessels, although the infiltration is not so marked as in most cases of papular syphilis. Later in the course of the disease the pigment returns, often in excessive amounts. It had always been supposed that the whitish color of the lesions was due to the scales alone, but the absence of pigment must account for some of it. Rarely an area of leucoderma remains for some months after the infiltration has entirely disappeared. The pigmentation that remains in certain cases is due to the excessive return of pigment occurring about the time of resolution.

**DIAGNOSIS.** To any one who has seen a few such cases the diagnosis is easy. Erythema multiforme usually attacks the hands and forearms, frequently itches and is never scaly. The whitish appearance that most of the annular syphilides have is entirely lacking. Then, too, the lesions usually appear more suddenly than do the lesions of syphilis, which usually take from four to six days to appear.

In ringworm the lesions rarely have the same distribution, they develop more slowly than syphilides, the edge is not so indurated and is more inflammatory: the whitish scales are lacking. The mycelium and spores can be demonstrated.

Psoriasis rarely occurs on the face and never to the exclusion of the extensor surfaces, whereas the extensor surfaces are rarely involved in annular syphilis. The removal of a scale leaves a number of bleeding points, which is not true of syphilis. I have seen one case where the early annular lesions were so covered by glistening white scales as to closely suggest psoriasis.

The presence of concomitant signs of syphilis and, in doubtful cases, the presence of a positive Wassermann reaction or of the treponema pallidum, would always clear the diagnosis.

**PROGNOSIS.** The annular syphiloderm usually responds very kindly to treatment; so far I have not encountered a case where the cutaneous lesions did not entirely disappear. One of the patients, a young girl, developed insanity, presumably as the result of an early brain lesion. In the twenty cases that I have been able to follow for some time there has been no further trouble.

**ANNULAR SYPHILIS IN HEREDITARY LUES.** Through the kindness of Dr. E. P. Copeland I have seen two cases of this condition, both children having attended his clinic at the Children's Hospital. One of the children was one year old, was wasted, had a saddle nose and condylomata, in addition to a scroll-like arrangement of raised lesions on both cheeks. The other child was two years of age,

STATISTICAL TABLE OF CASES.

Case.	Patient.	Origin.	Evolution.	Number.	Region.
1	Pure negress, age 22.	Papulo-squamous..	Clearing in centre.....	Many...	Face and arms.
2	Pure negro, age 38...	Small flat papular.	Clearing in centre, no central scaliness.....	One.....	Throat.
3	Pure negro, age 34...	Large papular.....	Clearing in centre, no central scaliness.....	Three....	Forehead.
4	Pure negro, age 17...	Follicular.....	Each papule became annular...	Many....	General.
5	Pure negress, age 20...	Follicular.....	Solid circles, little clearing of central papules.....	Many....	Arms and buttocks.
6	Pure negro, age 20...	Small flat papular.	Clearing in centre, no scaliness of centre.....	Few.....	Lip and body.
7	Pure negro, age 22...	Large papular.....	Clearing in centre, no central scaliness.....	Three....	Neck.
8	One-half negro, age 21	Small flat papular.	Clearing in centre, no central scaliness; in form of crescents	Few.....	Face.
9	Pure negro, age 28...	Small flat papular.	Clearing in centre, marked central scaliness.....	Many....	Body, limbs, penis.
10	Three-fourth negress, age 17.....	Small flat papular.	Clearing in centre, no central scaliness.....	One.....	Forehead.
11	Pure negress, age 18..	Small flat papular.	Clearing in centre, no central scaliness; one ring within ring	Three....	Forehead.
12	One-half negress, age 25.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
13	Three-fourth negress, age 18.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
14	Three - fourth negro, age 22.....	Follicular.....	Solid circles, little clearing of central papules.....	Many....	Body and arms.
15	One-half negress, age 21.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
16	One-half negro, age 22	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
17	Three-fourth negress, age 30.....	Small flat papular.	Clearing in centre, much central scaliness.....	Many....	General.
18	Three-fourth negress, age 18.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
19	One-fourth negro, age 14.....	Follicular.....	Solid circles, some clearing of central papules.....	Many....	General except face.
20	Three-fourth negress, age 22.....	Papulo-pustular...	Lesions grouped in rings.....	Many....	General.
21	One-half negro, age 23	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
22	Three - fourth negro, age 25.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
23	Three - fourth negro, age 28.....	Large papular.....	Clearing in centre, much central scaliness.....	Many....	Pubis only.
24	Pure negro, age 36...	Large papular.....	Clearing in centre, much central scaliness.....	Twenty..	Face.
25	Pure negress, age 67.	Large papular.....	Clearing in centre, much central scaliness.....	Few.....	Neck.
26	Pure negro, age 19...	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
27	Three-fourth negress, age 22.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
28	Three-fourth negress, age 25.....	Small flat papular.	Clearing in centre, no central scaliness.....	Few....	Face.
29	Three - fourth negro, age 25 .....	Large papular.....	Clearing in centre, much central scaliness.....	Many....	General.
30	Pure negress, age 20.	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.

STATISTICAL TABLE OF CASES.—*Continued.*

Case.	Patient.	Origin.	Evolution.	Number.	Region.
31	Pure negress, age 21.	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
32	One-fourth negro, age 22.....	Small flat papular.	Clearing in centre, some central scaliness.....	Few.....	Face.
33	One - fourth negress, age 35.....	Papulo-squamous..	Clearing in centre.....	One.....	Face.
34	Pure negress, age 22.	Large papular.....	Clearing in centre, no central scaliness.....	Few.....	Face.
35	Pure negress, age 20.	Large papular.....	Clearing in centre, no central scaliness.....	One.....	Body.
36	One-half negro, age 23	Small flat papular.	Clearing in centre, some central scaliness.....	Few.....	Face.
37	Three-fourth negress, age 24.....	Papulo-pustular...	Lesions grouped in rings.....	Many...	Arms.
38	Pure negress, age 17.	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
39	Pure negress, age 22.	Small flat papular.	Clearing in centre, no central scaliness.....	Few.....	Face.
40	Three-fourth negress, age 14.....	Follicular.....	Solid circles, some clearing of central papules.....	Many...	Back.
41	Three-fourth negress, age 14.....	Small flat papules.	Clearing in centre, no central scaliness.....	Few.....	Face.
42	Pure negro, age 24...	Papulo-squamous..	Clearing in centre.....	Many...	Hands and arms.

was in good general condition, but had condylomata, in addition to this same scroll-like condition of the chin and a typical annular lesion at the angle of the left eye. Both children showed a few small flat papules on the forehead, so it is evident that the lesions had small flat papules as starting points.

Out of 16 cases of hereditary syphilis in the negro 2 had annular lues.

I desire to thank Dr. Gilchrist for the privilege of reporting cases from his clinic and, also, for numerous suggestions in the preparation of this paper.

CONCLUSIONS. Annular syphilis is very prevalent in the negro, the extremely young and the females showing a slight predisposition toward it. The amount of negro blood had no influence on the frequency or character of this form of syphilide. The face, especially the corners of the mouth and eyes, is the most frequent site for the eruption, but it may occur anywhere upon the body. It is usually derived from the small flat papule, but may come from any other form of papule. The histology differs slightly from that of the other papular syphilides, in that there is not the same massive perivascular infiltration: plasma cells are present in abundance. The immediate prognosis is good. These lesions should not be confused with the

"neuro-syphilides" which come on later in the course of the disease and more nearly resemble erythema multiforme.\*

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### THE COURSE THE VIRUS OF HERPES ZOSTER TAKES TO REACH THE NERVE GANGLION.†

By DOUGLASS W. MONTGOMERY, M.D., San Francisco.

THE anatomical basis of herpes zoster is an inflammation of the ganglion on the posterior root of the affected nerve, or in the case of the fifth nerve, the Gasserian ganglion. In the large majority of cases it is now conceded that this ganglionitis is of bacterial origin. Any other traumatism giving rise to a severe enough ganglionitis may give rise to zoster, but bacterial trauma is the most frequent. The late W. G. Hay, while working with me, formulated the following reasons for considering zoster a bacterial disease:

There are definite epidemics of herpes zoster; the disease has a sudden onset; there is a general systemic disturbance with rise of temperature; there is more extensive adenitis than seems justified in so local a trouble; the course of the disease is self limited; and the patient seems to be immune from further attacks. The accompanying adenitis is, however, not pyogenic, due to drainage from pyogenic infection of the zoster eruption, for the enlargement of the glands occurs coincidently with the zoster eruption, and long

\*Since this article was written I have seen one case where the lesions of a typical maculo-papular eruption extended peripherally, with a slightly raised edge and cleared up in the centre with the deposit of considerable pigment. This change was noted only on the chin, although the entire body was covered with maculo-papules. The patient was a pure negress, aged thirty-three. It is evident that the maculo-papule must be added as another type of syphilide that may become annular.

† Read before the San Francisco Academy of Medicine, November 23, 1912.



PLATE V.—To Illustrate Article on "Annular Syphilis,"

by DR. H. H. HAZEN.

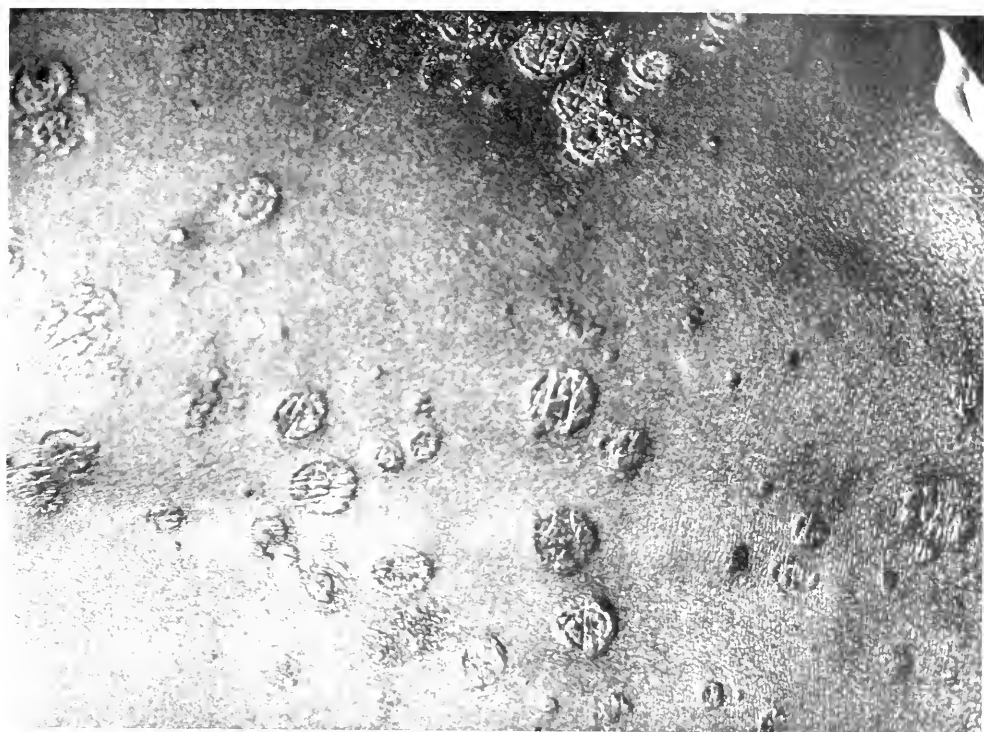


Fig. 2, Case 9.  
Annular Lesions from Small Flat Papular Syphilide.



Fig. 4, Case 4.  
Annular Lesions from Follicular Syphilide.



PLATE VI.—To Illustrate Article on "Annular Syphilis."

by DR. H. H. HAZEN.



Fig. 1.  
Annular Lesions in Hereditary  
Syphilis.



Fig. 6, Case 7.  
Annular Lesions from Large Papular Syphilide.



Fig. 3, Case 12.  
Annular Lesions from Papulo-Squamous Syphilide.



Fig. 5, Case 6.  
Annular Lesions from Small, Flat  
Papular Syphilide.



before any pyogenesis of the vesicles takes place. It must, therefore, be due to the same infective agent that causes the inflammation of the nerve ganglion. Accordingly, this infective agent must find both in the lymphatic nodules and in the nerve ganglia food suited to its peculiar taste.

How does this microörganism that causes this neural ganglionitis and lymphatic adenitis enter the body, and along what highways does it reach such remote centres as the nerve ganglia lying beside the central nervous system? That it is a lymphatic traveller is indicated by the early involvement of the lymphatic system of the affected region, and I believe that those bacteria that reach the neural ganglia travel along the lymphatics of the nerves.

The idea that the virus travels along the nerves to the ganglia originated in observing the facts in ophthalmic zoster. This nerve is particularly frequently attacked, and in a post-mortem reported by Sattler<sup>1</sup> only the upper part of the Gasserian ganglion, from which the ophthalmic branch springs, was found affected with inflammation. It looked in this case as if the virus had crept along the ophthalmic branch of the fifth nerve till it struck the more succulent tissue of the ganglion, and had then multiplied abundantly as having found nourishment fitted for it. It multiplied, of course, in that part of the ganglion which it first entered, which in this instance was the upper part. Before the lower part of the ganglion, from which the second and third branches of the fifth nerve spring, could become seriously involved, enough antitoxine had been formed to at first mitigate and finally to prevent the further course of the disease. A ready means for this infection to take place would be through the nasal mucous membrane, by which it would reach the nasal twig of the ophthalmic branch, or through the conjunctival mucous membrane, and so attain in either case the upper part of the Gasserian ganglion. The probable nature of the virus of zoster must also be taken into account in this. It is a community disease coming in epidemics in a community, and not necessarily transmitted directly from individual to individual. In fact it is rare to find two cases of zoster in the same family. It presumably, therefore, strikes the susceptible through the medium of the air, and consequently the nostrils, the conjunctiva, and the skin would be natural inlets. This would account for the frequency of herpes of the fifth nerve, and especially of its upper branch that supplies the mucous membranes of the nose, conjunctiva and lachrymal apparatus.

<sup>1</sup> Quoted by Blaschko; Article, Herpes; Hautkrankheiten; edited by Prof. Dr. F. Mracek, Bd. 1, S. 700.

The zoster virus has probably as great an affinity for motor nerve tissue as for sensory nerve tissue, but the motor nerve terminals, ending as they do in muscles, lie deeper and more shielded from any attack coming from the outside than the sensory nerves that terminate either in the mucous membrane or in the skin. The bacteria, therefore, cannot so readily reach the motor nerves to run along their course to the central soft cells where they find their best nourishment. When motor nerves are affected it is most frequently those that come near the surface, such as the ones supplying the ocular muscles, that lie near the conjunctival mucous membrane, or the nerves supplying the mimic muscles of the face that are in reality cutaneous muscles.

In this regard it is also interesting to note the relative frequency with which the different nerve ganglia are affected. There is no doubt that the Gasserian ganglion is not alone more severely affected than any of the others, but that it is relatively much more frequently affected than any of them. The most frequent situations for the eruption are the neck and trunk, but as there are many ganglia in these situations the relative frequency of the disease is much less for cervical and dorsal ganglia than for the Gasserian ganglia. The neck and the upper part of the trunk are much more frequently attacked than the lower part of the trunk and the lower extremities. Herpes zoster below the knee is very rare indeed. The relative frequency of zoster in these situations would correspond to the frequency of wounds and acne pustules and all sorts of lesions in these situations. Wounds in the hands themselves would give an excellent opportunity for infection of the lower cervical and upper dorsal ganglia. Zoster including the hands is, however, very rare. It must not, however, be supposed that the nerve affected by the zoster eruption is necessarily the one along which the zoster virus travels to attain the ganglion. It may very well be that the finer nerve branches distributed to the skin near the spinal axis react more readily to the inflammation in the ganglion than the stouter bundles going far out along the extremities.

The relatively greater severity of herpes zoster affecting the fifth nerve forms a powerful argument in favor of the theory that the virus travels along the nerve from the periphery toward the centre. A virus, for instance, travelling along the nerves terminating in the conjunctiva, or the nasal mucous membrane, to the Gasserian ganglion has a relatively very short distance to go before reaching the fated ganglion. In accordance with the short distance to be traversed less antitoxine would be produced than in running along

a longer nerve. Furthermore, only one nerve ganglion lies in this region, for the sphenopalatine and the otic ganglia are anatomically far removed from the Gasserian and not in the same nerve or lymph channels and, therefore, the Gasserian would receive the attack alone. By post-mortem we know that in zoster of the spinal nerves, many ganglia may be involved, and usually only one in great enough measure to react in giving the characteristic eruption.<sup>1</sup> In the case of the Gasserian ganglion we also know that there are no lymphatic nodules in the neighborhood to furnish an additional good breeding place for the bacteria of zoster, and therefore to produce a mitigating antitoxine. The Gasserian ganglion therefore receives the attack quickly after the time of infection, and is probably alone involved, and does not have the advantage of a coincident lymphadenitis, all of which would allow of a more intense inflammation of the ganglion, and a consequently more severe herpes, which we clinically know to be true.

The one-sided occurrence of herpes zoster forms another argument equally strong for considering that the infection is at first a local affair travelling from the periphery toward the centre, and not from its inception a widely distributed blood poison with especial impingement on the sensory nerve ganglia. In this respect it is analogous to the chancroidal infection, where the virus almost always strikes the lymphatic nodules in one groin with greater severity than those in the other, and one of those nodules with greater severity than the rest. The difference lies in the fact that in zoster the virus has a special affinity for nerve tissues, runs in the lymphatics along the nerve, and ends in a severe inflammation in the ganglion. It is not surprising that some of the virus should sometimes enter the lymphatics running along one of the more deeply situated motor nerves, run up it and strike its motor centre, causing paralysis. That it does so infrequently is also what we would naturally expect. This theory of the coincident peripheral infection of both sensory and motor nerves is much easier to comprehend than Hewlett's theory, for instance, that premised that the virus might travel down a sensory nerve to its junction with a motor nerve, and then back up the motor nerve to the motor centre.<sup>2</sup>

Another clinical fact indicating that the virus travels along the nerve to reach the ganglion is the frequent occurrence of prezosteric

<sup>1</sup> Hedinger's autopsy cited by Hunt, *Am. Jour. Med. Sci.*, Aug., 1908.

<sup>2</sup> ALBION WALTER HEWLETT. Motor Complications of Herpes Zoster, *California State Jour. Med.*, April, 1906.

neuralgia. It would appear that the nerve is affected quite a length of time before the ganglion is attacked.

In going over my histories in regard to the occurrence of precedent pain, one patient had had a bad "cold" and a feeling as if something were in the left eye for some time before the outbreak of a left supraorbital zoster. In another patient a left-sided cephalic neuralgia preceded for two or three days a herpes zoster of the left ophthalmic nerve; another had pain for three days before the eruption appeared; another, who had right-sided thoracic zoster, had pain in this region eleven days before the eruption broke out; another with zoster in the same situation, had an uncomfortable feeling in the side of the chest for two weeks previous to the eruption; another with zoster of the left buttock, had had pain in this situation for two weeks before the outbreak; another patient slipped on the sidewalk on October 5th, experienced uneasiness in the left leg after a long walk on October 8th, had severe pain in the left lower extremity the night of October 12th, and on October 16th the eruption appeared in this painful member; another had severe pain in the scapular region for six days before the outbreak of thoracic zoster; another patient had herpes zoster of the left supraorbital nerve, that followed neuralgic pain of a week's duration over the left eye.

Pain is not an absolutely constant symptom of zoster as it may not be present at all, or the eruption may precede it. In one of the most severe ophthalmic zoster I have seen the pain did not supervene till the second day of the eruption, and then it became intense. This absence of pain does not, however, lessen the importance of the symptom as indicating nerve disturbance when it is present. It only indicates that in some instances the disturbance is either not severe enough or not of such a character as to give rise to pain. In fact it is easy to imagine a virus travelling up a lymphatic in a nerve sheath without causing much disturbance to the nerve axis. The real disturbance to the nerve axis occurs when its nutritive centre, the ganglion, becomes inflamed.

This theory of the virus of herpes zoster entering the lymphatics of a nerve sheath and wandering along it to the nearest ganglionic or gray matter cells, as the case may be, accounts for so many of the clinical and pathological facts known in this most interesting disease, that it must furnish their true explanation. It accounts for:

The neuralgia that frequently precedes the eruption.

The unilaterality of the disease.

Its most frequent occurrence on the head, neck and upper part of the trunk.



The much more frequent implication of the sensory than the motor nerves.

The limitation of the eruption to one or two nerves.

The partial inflammation of the Gasserian ganglion as observed by Sattler.

The frequently very great intensity of zoster of the fifth nerve, especially of its ophthalmic branch.

Besides the above, this theory explains the enlargement of the lymphatic nodules coincident with the appearance of the eruption.

## MULTIPLE PRIMARY CARCINOID OF THE SKIN IN AN INFANT.\*

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**P**PRIMARY multiple tumors of the skin have been frequently described. While they have been classified as various forms of sarcomata, examples are remarkably numerous which are difficult if not impossible to typify. It is this feature, added to the fact of their multiple character, that lends special interest to these growths. With the exception of rare cases of multiple rodent ulcers there appears to be no authentic example of primary multiple carcinomata, so that a discussion of the nature of a given case is usually confined to one of the various forms of sarcomata. According to the literature, the following are the forms of primary multiple sarcomata of the skin:

A. True sarcoma. B. Sarcoid. C. Leukosarcoma. D. Angiosarcoma. E. Sarco-leukæmia. F. Infective sarcoma. All of these are commoner in the adult than in the infant. The case which I am about to describe was entirely different histologically from any of these and, moreover, developed very shortly after birth.

### CASE REPORT.

**FAMILY HISTORY.** The family history was negative in respect to tuberculosis and syphilis, and the only case of a tumor occurring in the family was in an aunt who had a uterine polyp.

\* From the Pathological Laboratories, Royal Victoria Hospital; under the direction of O. G. Gruner, M.D.

**PATHOLOGICAL EXAMINATION.** After the child had been under observation for a short time it was decided to remove one of the nodules for pathological examination. This was accordingly done and the tissue placed in Zenker's fluid for fixation. The pathological report was as follows:

**MACROSCOPICAL EXAMINATION.** The nodule is covered by cutaneous epithelium which seems to be slightly stretched. The skin is of a yellowish-brown color. On section, the nodule is seen to be situated beneath the epithelium and to extend into the subcutaneous tissue. It is fairly well circumscribed, but cannot be shelled out. The cut surface has a grayish-white appearance similar to that seen in some types of sarcomata. It is quite firm and there is no evidence of breaking down nor of caseation.

**MICROSCOPICAL EXAMINATION.** By the low power, the section is seen to be covered by cutaneous epithelium, which is normal save for a slight flattening of the papillae. In some of the sections, the superficial layer of the cutis vera is normal, whereas in others it is invaded by the tumor cells. In some portions of the section the hair follicles and sweat glands are free, but in others they are surrounded by the tumor cells. There is no evidence of inflammatory change in these layers. The main portion of the tumor, as stated before, is situated in the deep part of this layer and the subcutaneous fat. In the deep portions of the tumor, fat cells can be seen surrounded by tumor cells. In parts of the tumor, blood vessels can be seen, the majority of which have very indefinite walls, but occasionally blood vessels are found which have well-formed walls. A small amount of pigment is seen in these questionable blood spaces.

By the high power the tumor is seen to be made up of masses of cells lying one against the other, with very little stroma and permeated by extremely slender branching clefts, the cell columns being three or four cells in thickness. These cells are polymorphous in shape, varying from round to oblong, the majority being irregularly round. The cell body is comparatively large and the cytoplasm stains well, but duskily with eosin. The nuclei are round or oval and contain a considerable amount of chromatin. This is distributed, in some places, evenly throughout the nucleus, in others, it is arranged peripherally. The nuclei vary in size, some of them being relatively large while others are quite small. Here and there, giant cells can be seen and small round structures, surrounded by a halo, like cell inclusions, are occasionally observed. The elastic tissue of the cutis vera becomes destroyed as the tumor cells invade it, but here and there an elastic fibre can be seen in the tumor itself. Plasma cells are present in the vicinity of the mass, but not in greater numbers than usually occurs around any tumor (Pappenheim's stain).

No bacteria could be found in any of the sections stained by the Gram-Weigert method.

**DIARY.** When it was discovered that the condition was one of multiple tumors, the child was given arsenic in the form of Fowler's solution. There was very little effect produced on the nodules by this drug and it did not prevent the further development of nodules. Thyroid extract was also tried, but after being administered for three weeks the child became very irritable, so the drug was discontinued. With the exception of an increase in the number of nodules, the child's condition is very good, these growths having no apparent effect on its general health.

**PAST HISTORY.** The patient was an infant born normally at full term, whose mother is a primipara. The infant was apparently normal at birth. A small nodule, the size of a pea, appeared in the skin on the left temporal region five days later. It was of a light, yellowish-brown color, but became somewhat darker when the child cried. About ten days later, another nodule appeared on the right side of the head over the posterior parietal region. Since then, nodules have been appearing on the head, face, ears, chest, back, abdomen, buttocks and one on the palm of the right hand. When six months old, a small nodule ap-

peared on the mucous membrane of the upper lip, it being the only one to be found on a mucous surface. Although the number of nodules have been increasing, yet none of them have attained any great size.

When the child was five weeks old, it developed evidences of an inflammation in the left eye. Two days later, the right eye showed the same signs, the condition in the left eye disappearing. A doctor was then consulted and he sent the child to a specialist. The specialist decided that it was necessary to remove the eye and gave the child chloroform with that object in view. When the child was under chloroform and a thorough examination made of the eye, he decided that it was not necessary to remove it. The child was then treated for three months with mercury, by indirect inunctions. At the end of this time the eye became very prominent and the child was again given chloroform with the object of removing the eye. However, the idea was abandoned.

The child was then sent to a hospital, where leeches were applied to the right temporal region. This reduced the prominence of the eye very rapidly. During the three weeks in which the patient remained in the hospital it was given direct mercurial inunctions. The eye improved considerably under this treatment, but the child's general condition became decidedly worse, necessitating the discontinuation of the mercury. The condition was considered so hopeless that the little patient was sent home. A few days later, the left eye showed signs similar to those in the right eye. The child was then sent to Dr. Tooke, who diagnosed the condition as an old interstitial keratitis of the right eye and a beginning interstitial keratitis of the left eye.

**PHYSICAL EXAMINATION.** When brought to the Royal Victoria Hospital in February, 1912, the child was  $4\frac{1}{2}$  months old and its condition was as follows:

There were numerous nodules scattered over the head, face, ears, body, legs and one on the palm of the right hand. At that time there were no nodules on the mucous surfaces and it was not until two months later that a nodule appeared on the mucous membrane of the upper lip. These nodules were situated in the skin and varied in size from a pin's head to a five-cent piece. They also varied in color from light yellow to brown. When the patient cried they became reddish-brown. They did not show any evidence of fusing one into the other, or any tendency to break down. In the case of the largest one, the skin with the nodule in it was elevated about 2 mm. above the surface.

The liver was not enlarged, nor was there any enlargement of the spleen. There were no palpable lymphatic glands.

**BLOOD EXAMINATION.** Blood count: Red cells show slight anisocytosis; blood platelets are moderate in number; normoblasts, 2 to every 100 white cells. White cell count: 16,000. Differential count: Polynuclears, 16.00%; mast cells, 0.5%; eosinophiles, 2.0%; lymphocytes, 65.5%; large mononuclears, 16.0%; transitionals, 0.0%. Many of the lymphocytes are mesolymphocytes and some of them (30%) have the characters of microlymphoidocytes. One Rieder cell was seen.

**SPECIAL EXAMINATIONS.** The Wassermann reaction was negative both in the case of the child's and the mother's blood. The tuberculin reaction (von Pirquet) was negative. The urine was normal.

**COMMENT.**—In attempting to decide upon the nature of this tumor it is necessary to expand the discussion beyond the two or three of the various forms of sarcomatosis of the skin already detailed and, also, such tumors as endothelioma and perithelioma. Both leukæmia and sarco-leukæmia are excluded by the character of the cells in the nodule itself, as these are not discrete and are not in any sense analogous to leukæmic infiltrations, nor were there

any leukæmic manifestations elsewhere. Although certain abnormal forms of mononuclear cells were found in the blood film, the age of the patient prevents their presence from being remarkable. True sarcoma is excluded by the general structure of the nodule, the cells being variable in type and vascular channels inconspicuous. The appearances at the edge of the growth are also different from those seen in simple sarcoma. I may, therefore, discuss more particularly:

#### A. ANGIOSARCOMA.

When this form of tumor is compared with the one under discussion certain points of similarity are noted, but, also, certain points which strongly negative the diagnosis. In the first place, these tumors may be multiple as in the present case, and may be raised to the same extent above the surface, but they usually present the appearance of having involved the whole skin and are distinctly bluer than in my case. Microscopically, the cells resemble somewhat those found in *nævi*, but on the other hand, when the *nævi* take on a malignant growth, they conform to the spindle variety of the connective tissue cells. Then, again, the scarcity of definite blood vessels or blood pigment seems to me to mitigate against the angiosarcoma theory. The difference of structure between the case in question and the angiosarcoma is equally decidedly against interpreting it as either an endothelioma or a perithelioma.

#### B. SARCOID.

Boeck, in his original article, described this condition as multiple nodules occurring on the head and the extensor surfaces of the limbs. These varied in size from a hemp seed to a bean and were found to invade the whole skin; their color was a bright red. There was a tendency to a peripheral spreading and a central depression. They did not exude serum nor did they ulcerate. The lymph nodes usually were found to be enlarged and there was a slight leucocytosis. Microscopically, they were seen to be made up of a rapid proliferation of epithelioid connective tissue cells in the perivascular lymph spaces. Later sections showed the tumor to have degenerated, leaving a network of connective tissue cells. True giant cells of the sarcoma type were sometimes seen.

The age of my case precludes it from being considered in this category, as Boeck's disease always occurs in adults. Then, again, there was no enlargement of the lymph nodes and no abnormal

leucocytosis. Microscopically the picture is quite different, there being none of the connective-tissue type of cell found in the mass.

#### C. KAPOSI'S DISEASE.

This disease always occurs in adults, no case having been reported in children. The appearance of the nodules is always preceded by a swelling of the extremities, usually the lower, and a bluish discoloration of these parts. Microscopically, the nodules are seen to be made up of masses of oval cells lying in a homogeneous matrix with here and there bands of fibrous tissue coursing through the mass. Numerous blood vessels are seen lined by endothelial cells. Golden-brown pigment is found in the cells as well as lying free in the spaces. Metastases are later found in the large intestine.

When one considers the age of my patient, the appearance of the nodules, the absence of blood vessels and pigment, the character of the cell proves to be the only real source of similarity between the two conditions. The mass of evidence is, however, against it being a case of Kaposi's disease.

#### D. GRANULOMA.

Conditions such as tuberculosis, syphilis, actinomycosis and blastomycosis may be ruled out at once, but even other cryptogenetic granulomata are negatived because the cell-form in my case conforms to one type and the structure of the tumor is uniform. However, there is one point in favor of the condition being an infective one, and that is the fact that along with these growths there is an interstitial keratitis.

#### CONCLUSIONS.

The close connection between the most superficial layers of the tumor-mass and the deepest parts of the hair follicles justifies considering the possibility that the condition may be one of multiple tumors arising from the outer layer of these follicles; in other words, a hitherto undescribed form of benign carcinoid tumor. To substantiate this view are the facts that hair follicles are seen surrounded by tumor cells and that the type of cell is similar to those forming the outer layer of these follicles.

The decision would have to be based on a comparison of the individual cells of the tumor with those coating the hair follicles,

which are genetically identical with the stratum columnare of the epidermis. In the tumor in question, the dusky-purple staining of the cell body with hæmatoxylin and the relatively large, pale-staining, finely granular nucleus, are features equally possessed by these follicular cells; the absence of arrangement into acinous groups, the permeation by very slender clefts (presumably lymphatic) and the presence of sudoriferous ducts for a short distance among the tumor cells, are further arguments in favor of this conception. Further, the absence of prickles in this tumor would not be against a diagnosis of carcinoid, nor would the age of the patient militate against the appearance of such neoplasms.

If this view is accepted, then the tumor must be looked upon as epithelial in origin and, although different in aspect from the carcinoids met with in the alimentary tract, resembles them (1) in developing by proliferation from the outermost layer of the gland-like downgrowths of the epithelial lining cells and (2) in being clinically innocent.

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## DERMATOLOGICAL THERAPEUTICS.

By

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### SALICYLIC ACID.

Among the therapeutic agents at the disposal of the dermatologist there is none which possesses a wider range of usefulness than salicylic acid. The following notes will serve to call to the reader's attention its many indications in the treatment of diseases of the skin:

Salicylic acid is a fine, white, crystalline powder.

SOLUBILITY. It is soluble in:

- 308 parts of water;
- 2 parts of alcohol;
- 2 parts of ether;
- 80 parts of chloroform;
- 200 parts of glycerine (cold);
- 20 parts of glycerine (heated);
- 20 parts of vaseline oil (heated).

INCOMPATIBILITIES of salicylic acid of possible interest to the dermatologist are:

- Diachylon (plaster);
- Iron and its salts;
- Quinine;
- Iodine and iodide of potassium;
- Antipyrin;
- Silver nitrate.

TOXICOLOGY. While these notes deal exclusively with the external administration of salicylic acid, it may be mentioned that when given internally it has caused erythematous, papulo-vesicular and pustular lesions on the skin. That serious poisoning may result through absorption when ointments, pastes or plasters containing the acid are applied over extensive surfaces for days at a time, is shown by the case of a nine year old boy, as reported by Matheson (*Lancet*, Feb. 13, 1904), who suffered from severe constitutional symptoms following the extensive use of Lassar's paste, said symptoms quickly disappearing when the paste was discontinued. Such cases appear to be extremely rare.

CONTRAINDICATIONS. Salicylic acid is contraindicated in the treatment of all cutaneous surfaces denuded of epidermis and in epitheliomata, owing to its property of stimulating mitosis. It should be used with care in the case of patients suffering from middle ear disease, meningeal inflammation and any form of nephritis, on account of the possibility of intoxication from absorption through the skin.

ACTION. Menahem Hodara (*Histologische Untersuchungen über die Einwirkung der Salicylsäure auf die gesunde Haut. Monats. f. prakt. Dermat.*, 1899, xxiii, No. 3, p. 117), found that the keratolytic effects of the acid are best developed by its application in or on an impermeable substance (salve, paste, plaster, collodion). On the human skin, the acid produces, when applied as a plaster:

1. Swelling of the horny layer, which splits into scales, which ex-

foliate. The stronger the proportion of the acid, the greater the thickness of the exfoliated layer, which may be shed in large pieces, and the more rapid the action.

2. Œdema of the granular and prickle cell layers. These may become homogeneous and necrotic in spots, after applications of 8 to 10 days' duration.

3. The casting off of the horny layer is followed by a great increase in cell proliferation in the germinal layer, which remains otherwise unaffected by the acid and a consequent rapid regeneration of the upper layers results.

4. Thirty per cent. salicylic acid in collodion produces on the third day after application a marked inter- and intracellular œdema of the prickle cell layer, which becomes necrotic in spots and is finally cast off by the young, growing cells under it.

5. The dermis shows a slight inflammatory irritation, dilatation of the blood vessels, proliferation of the perithelium and intervascular connective tissue cells, but no immigration of leucocytes.

**SELECTIVE ACTION.** The action of salicylic acid is largely limited to pathological tissue. Taenzer (*Zur Anwendung der Unna'schen Guttapercha Pflastermulle. Monatsh. f. prakt. Dermat.*, 1894, xviii, No. 7, p. 312) cites the brilliant manner in which the acid acts upon lupus nodules, causing these to fall out as though they had been removed by a skin punch. In hyperkeratosis, the abnormally thickened horny layer is easily removed but never in its entirety, as a thin layer is always left behind as a protective to the younger cells beneath it.

**THERAPEUTIC ACTION.** The clinical effects of external applications of salicylic acid vary greatly according to the proportion of acid used, the form of application and the length of time the latter remains on the skin.

**ANTIFERMENTIVE.** H. C. Wood (*Therapeutics*, 14th ed., p. 453) states that Kolle found that 0.04% had great influence in preventing the souring of milk and that 0.15% was sufficient to prevent the development of bacteria. In the preservation of urine, one part of acid to two thousand parts of urine sufficed to prevent putrefaction. These facts are of practical value to the dermatologist and explain the reason for using the acid in most powders and pastes recommended for hyperidrosis.

**ANTISEPTIC.** The same author quotes Bucholz as stating that 0.3 to 0.4% of the acid killed bacteria of vigorous growth and adds that neutralization reduces its antiseptic properties. Binz, quoted by Leistikow (*Therapie der Hautkrankheiten*, p. 63), found salicylic acid an active poison for many types of protoplasm and considers it



a powerful parasiticide. In my personal experience, I have found this remedy to act brilliantly in a majority of the acute infections of the skin due to bacteria—particularly impetigo contagiosa and sycosis. In pediculosis capitis, an application of an ointment containing from 10 to 15% of the acid will not only kill the pediculi almost immediately but will also kill and loosen the nits from the hair and remove accumulations of crusts, scales and débris from the surface of the scalp. I believe its property as an antiseptic to be due to its solvent action upon the cell membrane and substance of parasites.

**KERATOPLASTIC.** Jessner (*Dermatologische Heilmittel*, p. 68) and Lererman (*Therapeutisches Vademecum*, p. 48) recommend salicylic acid in strength of  $\frac{1}{2}$  to 2% in oil or ointment as a keratoplastic. Hodara in his investigations, quoted above, found that the acid stimulated decidedly mitosis in the germinal layer of the epidermis. As a keratoplastic, the acid should not be used in stronger proportions than 3%, as it is at this point that its keratolytic action commences.

**KERATOLYTIC.** It is as a keratolytic that salicylic acid is chiefly used, and its solvent action upon the keratinized cells which make up the horny layer of the epidermis is of immense value in dermatological treatment. The indications may be described as follows:

**PREPARATORY TREATMENT.** In psoriasis, seborrhœic dermatitis, pityriasis, ringworm, favus, chronic eczema, ichthyosis and impetigo, the affected surface may be so completely covered by firmly adherent scales, crusts and débris, as to protect the skin of the affected areas from the remedies applied, or to at least diminish greatly the penetration and effect of the latter. But if as a preparation to the regular treatment, an oil, ointment or, best of all, a soap plaster containing from 5 to 15% of salicylic acid be used for from 3 to 5 days, the surface will be effectively cleaned and thoroughly prepared to receive and react promptly to the local medication.

**ADJUVANT.** For reasons similar to those already mentioned, salicylic acid intensifies considerably the effects of chrysarobin, pyrogalllic acid, sulphur, tar, resorcin, ichthyol and other drugs. The acid, as Jessner (*Dermatologische Heilmittel*, p. 68), expresses it, aids other remedies to penetrate not only through scales and crusts, but also through the stratum corneum. Thus an ointment containing 5% each of chrysarobin and salicylic acid will be found to be as effective as one with 10% chrysarobin but without the acid.

**SIMPLE KERATOLYTIC.** This, the most valuable property of salicylic acid, is found in the ointments, oils and plasters containing more than 3% of the drug. Hodara found solutions of the acid in

alcohol and ether to be devoid of keratolytic effect. Soaps containing the acid and used in the ordinary way are also useless. The mildest action is exhibited by this remedy when mixed with talc and used as a foot powder. Salicylated oils rank next and are most suitable for the hairy surfaces, while simple ointments and pastes are respectively stronger in action. The latter are rendered less penetrating by the addition of zinc oxide and the local pain produced by application of strong proportions of the acid may be alleviated by adding creosote, carbolic acid and extract of *cannabis indica*. The most thorough and rapid effects of salicylic acid are seen when it is used in plaster form and particularly as Unna's guttapercha-soap-plaster. Solutions in collodion are clean and convenient, but their effect is superficial.

**RESOLVENT.** Plasters containing 20 to 25% of salicylic acid act well in aiding the resolution of areas of dermal infiltration, as are seen in persistent lichen planus and chronic eczema.

Astringent qualities are also claimed for this acid by Leistikou (*Therapie der Hautkrankheiten*, p. 63) when it is used in small percentages (1 to 3%).

**DOSAGE.** The salicylated oils should contain 3 to 5% of the acid, 10 to 15% is the usual strength of the ointments and pastes, while the collodion solutions are used to dissolve from 15 to 25%. The plasters are made up to contain from 5 to 20% and from 0.25 to 50.0 grams per square metre. Taenzer (*Zur Anwendung der Unna'schen Guttapercha Pflastermulle*, *Monatsh. f. prakt. Dermat.*, 1894, xvii, No. 7, p. 301), recommends strengths of 5.0 to 10.0 grams per metre when beginning treatment and increasing the percentages as required. For hyperkeratosis, callus, clavus and marked infiltrations, 20.0 to 50.0 grams per metre may be applied. The plasters are allowed to remain from 2 to 8 days. When the proportion of salicylic acid is too high, a vesicular dermatitis may result. The ointments and pastes should be buttered as a thick layer on cotton flannel and applied three times a day. The dressing should be covered by a piece of oiled silk. A cap of this material should also be used when salicylated oil is applied to the scalp. When collodion with the acid in solution is used, the dried films of previous paintings should be removed with forceps at least every second day.

**INDICATIONS.** From the foregoing it will be seen that the use of salicylic acid, as a preparatory treatment, is indicated in psoriasis, seborrhœic dermatitis, pityriasis conditions, ringworm, favus, sycosis, impetigo, acne vulgaris, ichthyosis, lichen planus hypertrophicus, rosacea, eczema marginatum, erythrasma, subacute and chronic eczema, scleroderma and tuberculosis verrucosa cutis.

The acid is directly indicated in hyperkeratosis, ichthyosis, Darier's disease, lichen ruber, callus, clavus, verruca vulgaris, verruca senilis, senile pruritus (Jessner), lupus vulgaris (Unna), pediculosis pubis, pediculosis capitis, acne necrotica, lupus erythematosus, tinea unguium, acne vulgaris, seborrhœa and hyperidrosis.

NOTE. The next installment of DERMATOLOGICAL THERAPEUTICS, consisting of a discussion of the valuable drug RESORCIN, will appear in the April issue of THE JOURNAL.

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## SOCIETY TRANSACTIONS

### NEW YORK ACADEMY OF MEDICINE, SECTION ON DERMATOLOGY.

December 5, 1911.

JEROME KINGSBURY, *Chairman.*

#### **Lupus Erythematosus Disseminatus.** Fox.

Presented by DR. HOWARD

The patient was a man, forty-two years old, born in the United States. About eleven months ago he had suffered from a febrile attack which lasted about three weeks and was followed by an eruption upon the face. The cause of the temperature, which did not rise above 101° F., could not be ascertained by the physician who attended him. It did not appear to be malarial in origin. For a few months previously he had been drinking a considerable amount of alcohol, and at the time of his illness was in a very "nervous" condition. The eruption had steadily increased up to the present time. At the outset it had caused considerable burning and itching. Various methods of local treatment had not produced any improvement. Indeed, the internal administration of quinine combined with external applications of iodine, had, according to the patient's statement, made the condition worse. Upon examination, the patient presented confluent patches upon the nose and cheeks, ears and neck, that were pinkish, slightly scaly, some of them showing a decided verrucous tendency. The scalp was normal in appearance. On the forehead there were small, irregular erythematous patches and on the chin several elevated scaly discs. The lips showed an erythematous-squamous eruption extending upon the mucosa. The arms and forearms, especially the extensor aspects of the latter, showed numerous small, discrete, erythematous-squamous patches of irregular form. These appeared to be slightly depressed as if in the

stage of evolution. On the ulnar aspect of the palms, near the wrists, there were large, irregular, pinkish patches with desquamating margins and slight sealiness in their centres. Along the ulnar borders of the little fingers, there were confluent pink discs, with desquamating margins. On the backs of the hands and fingers there were small, irregular, pink patches, a few of them being discoid. At the tips of the fingers and at the base of the nails, the same red infiltration with scaling was apparent. The nails themselves were unaffected. The feet which had been similarly affected during the summer, were now practically well.

The general condition of the patient was fairly good, though he had lost forty pounds during the year. Until the past year the patient had always been in the best of health. An uncle had suffered from tuberculous glands. There was no other family history of tuberculosis. The patient had a slight cough which had been attributed to smoking. There had never been any expectoration or night sweats. Examination of the lungs showed nothing abnormal. There was no history of syphilis. The Wassermann reaction was entirely negative, the patient never having taken mercury to his knowledge. The urine had been previously examined and showed no abnormal ingredients. No tuberculin test had been made.

**Infantile Syphilis.** Presented by DR. KINGSBURY.

The patient was a female infant, about two months old, breast fed and fairly well nourished. The eruption was very general and was said to have been present for over a month. There were many large, flat papules on the neck and trunk, and on the buttocks and thighs there were several very perfect annular lesions nearly half an inch in diameter. There were patches in the mouth and on the anus. The mother was apparently in perfect health. A very suggestive history was obtained, but a careful examination failed to reveal any evidence of syphilis in the mother. A Wassermann test was negative.

**Xanthoma Planum.** Presented by DR. LAPOWSKI.

The patient had been under observation since November 8, 1908. During that period many former spots were absorbed, leaving very pale brownish, not very pronounced spots. In some places, as in the upper and lower extremities, the spots disappeared entirely, leaving no macroscopical signs. On the trunk some old xanthoma planum spots were still visible. During the period of observation there were never any symptoms of pruritus, urticaria or erythema, nor even any dermatographism.

DR. HOWARD FOX said that the diagnosis should be decided by a microscopic examination. There was little doubt that a number of cases of urticaria pigmentosa with yellowish lesions had been mistaken for xanthoma.

DR. POLLITZER said that this was a typical case of urticaria pigmentosa. Some of the lesions were xanthelasmoid in appearance, but had nothing to do with xanthoma. The occurrence of yellowish plate-like lesions in urticaria pigmentosa

was not so rare that dermatologists need confuse this appearance with xanthoma.

DR. LAPOWSKI, closing the discussion, said that this case had never had urticarial lesions. Every pigmented macule was occupied by a xanthoma-like lesion.

### **Epithelioma of the Nose.** Presented by DR. LAPOWSKI.

This case was shown before the Section on February 4, 1909, as gumma. Under mercurial treatment of calomel injections, and locally, white precipitate ointment, the lesions entirely disappeared for a time, leaving a soft, clear scar, but at the same time new millet-sized, round efflorescences reappeared in new places. Several weeks later there was a reappearance of lesions in the former places. Under CO<sub>2</sub> snow, some of the lesions disappeared, but some still persisted.

### **Case for Diagnosis (Tumor of Breast).** Presented by DR. LAPOWSKI.

This case was shown before the Section, March 3, 1908, as gumma. The disease affected the left breast and nipple; there was hardness around the nipple, which was red, the skin was infiltrated and there was a tumor under the skin, slightly painful to the touch. In the right breast, at the outer axillary line, there was a subcutaneous tumor, hard to the touch. The cutaneous portion was infiltrated, the surface smooth. The patient absolutely refused biopsy. This case showed how little we could rely on the test of treatment for diagnostical purposes. Under calomel injections and inunctions, the very pronounced tumors in the breast had entirely disappeared, leaving a smooth surface of skin and a concavity corresponding with the former tumors. This took place, not only once, but several times. The present reappearance of the tumors since July, 1911, resisted a specific treatment, which on former occasions gave good results. Salvarsan intramuscularly had no effect.

DR. ROBINSON said that from the start he had had no doubt that this was carcinoma. He was surprised that there had been any improvement under anti-syphilitic treatment. The case was instructive.

### **Lupus Erythematosus.** Presented by DR. LAPOWSKI.

The patient was shown before the Section in 1908 as syphilis. The case had been under observation since 1907. The patient received the benefit of all possible methods of specific treatment; calomel injection, rubbings, salvarsan (intramuscular) in sesame oil and externally, white precipitate ointment from 15 to 25%. During the period from 1908 up to present time, the lesions on the face and body disappeared almost entirely. The mucous membrane was normal with the exception of being redder than usual, but both the skin manifestations and those on the mucous membrane appeared without any reason and sometimes in very pronounced form. Anti-syphilitic treatment was discontinued from May, 1911, and only white precipitate was applied, locally. The lesions

on the face were less pronounced, but the mucous membrane was in the same condition as it was in 1907. The presence of the lupus erythematosus on the mucous membrane of the cheeks suggested the ætiological possibility of lupus erythematosus upon the mucous membrane of the stomach in cases of ulcer of the stomach.

**Sarcoid.** Presented by Dr. LAPOWSKI.

The patient was a man, seventy years old. He presented erythematous patches arranged in circles, with free centres and raised borders. These were on his back above the sacrum, and on the abdomen. On the upper extremities were found disseminated penny-sized tumors, with flat, reddish surfaces, arranged in patches. The eruption appeared several months ago, all lesions appearing simultaneously without any marked subjective symptoms, excepting slight itching. His general health was good. The patient was under observation for the past few days. He received salvarsan 0.2, in sesame oil two days ago. The itching was less, but it was too early to notice any change in the lesions. No blood examination was made. Excision of a lesion was made for histological examination.

Dr. POLLITZER said that the histological picture was not that of sarcoid. He favored a diagnosis of sarcoma or of leukaemia.

Dr. LAPOWSKI said that the appearance of the lesions on the back, and the fact that the lesions disappeared under arsenic, would speak for sarcoid.

**Lymphosarcoma.** Presented by Dr. LAPOWSKI.

The patient was a man, forty-five years old, with no history of tuberculosis and with no tubercle bacilli in the sputum. He was at the Bedford Sanatorium, September, 1910. A year and a half ago, he sustained a trauma of the right shoulder. In May, 1911, a nodule appeared on the right clavicle rapidly increasing in size. In July, 1911, he entered one of the hospitals where he was treated with the X-rays, injections into the tumors, intramuscular injections and intravenous also. From examination of the patient it was assumed that the intravenous injection was probably salvarsan. After the injection the right arm swelled to a great extent; he was unable to bend it. The veins of the skin from the neck down to the deltoid muscle were greatly enlarged, the skin tense, hard to the touch and oedematous. Under both axillæ there appeared disseminated tumors, hard but painless. Alongside of the right sterno-cleido-mastoid muscle, he had a bunch of glandular tumors, the skin covering the tumors being very much distended, but normal in color.

Dr. OULMAN said that he had had several cases of this kind under treatment with the X-ray, and that recurrences were very common.

**Lichen Ruber Acuminatus.** Presented by DR. LAPOWSKI.

The patient was shown before the Section in 1910. The skin of the former site of lichen ruber acuminatus was smooth and could easily be folded; the bed of the nails was nearly normal and there was hardly any vestige of the former eruption. The treatment consisted of oily applications, white precipitate, resorcin oil and injections of Fowler's solution and biniodide of mercury.

Dr. ROBINSON said that he had seen this case many years ago, when it looked like eczema and was so diagnosed at the Skin and Cancer Hospital, but later observation made the diagnosis of lichen ruber easy. The marked improvement was very interesting. The case had not improved under his treatment.

Dr. OULMANN said that these cases showed improvement for some time without treatment.

Dr. LAPOWSKI, closing the discussion, said that he did not agree with Dr. Oulmann's statement that these cases would improve without treatment; but on the contrary he claimed that the marked improvement in this case was entirely due to treatment.

**Bazin's Disease.** Presented by DR. MACKEE.

The patient, a young woman, eighteen years of age, was presented by Dr. Fordyce at the January, 1911, meeting of the Dermatological Society (*Journal of Cutaneous Diseases*, June, 1911). At that time the patient had the typical nodules and ulcers of erythema induratum on the posterior surface of both legs. The diagnosis was later strengthened by a positive von Pirquet test and a negative Wassermann reaction. When the patient was presented to the Section, there was very little evidence of the former disease, the ulcerations were healed and the nodules had disappeared, and there was nothing left but areas of pigmentation. This cure had been accomplished by the use of tuberculin therapy. Of course, the speaker said, this disease tended to spontaneously recover and to recur, but in this instance there had been no improvement whatever up to the time that tuberculin was administered and the progress had been so rapid and steady since, that one was warranted in believing that the tuberculin was probably responsible for the cure.

**Psoriasis and Syphilis.** Presented by DR. POLLITZER.

The patient was a man of about twenty-eight years, and had been psoriatic for ten years, syphilitic about six months. He had recently been treated with salvarsan without effect on his psoriasis. Scattered among the extensive lesions of psoriasis there were a few lesions on the trunk which in color, consistency and outline were manifestly syphilitic papules.

Dr. HOWARD FOX said that it was difficult to say which of the lesions were syphilitic and which were psoriatic.

DR. ROBINSON agreed with Dr. Fox. The appearance was that of psoriasis in a syphilitic. The immunity conditions in syphilitics frequently gave a clinical type to non-syphilitic lesions that suggested a previous syphilis.

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### PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting was held at the College of Physicians, on February 12 and March 11, 1912. DR. JAY F. SCHAMBERG, *President*.

#### **Case for Diagnosis.** Presented by DR. SCHAMBERG.

A woman of forty exhibited an outbreak of some six to eight years' duration. The outbreak was noted upon the abdomen, the chest and the breasts. The lesions were of a pinkish-red to a brownish tint, some almost hæmorrhagic in appearance, papular in type, pinhead to split-pea in size. The patient's back was comparatively free of eruption. There was a considerable amount of itching, which seemed to appear in certain fixed cycles, developing at intervals of two weeks. At these times the pruritus was complained of as being almost intolerable.

#### **Acne Varioliformis (?).** Presented by DR. KNOWLES.

A patient of twenty-one years, born in Russia, exhibited an outbreak which had been more or less persistent for the last ten years. The knees, elbows, hands, face, particularly the ears and the eyelids, exhibited a considerable amount of pitted scarring. The dorsal surface of the fingers, the forearms, the upper arms, the shoulders and the ankles also showed pit-like scars. The disease was also in an active stage on these various areas. Reddish pinhead, split-pea and larger lesions were observed, some with a large yellowish, purulent centre. The condition showed a marked tendency to recur even after the disease had apparently been entirely eradicated. The patient's health was apparently in no way affected. The Wassermann test was negative, while the von Pirquet tuberculin vaccination was strongly positive.

#### **Syphilis of a Vesicular Type in a Negro.** Presented by DR. HARTZELL.

A negro male of forty-five years exhibited a generalized, frankly vesicular eruption of six weeks' duration. The case was presented as one of extreme interest because of the doubt in the minds of certain syphilographers as to the existence of a vesicular syphilitic eruption. The lesions were in the present instance, however, all of the one type, frankly vesicular. The trunk, the extremities and the face exhibited the outbreak.



There was a general glandular swelling and an initial lesion on the penis. To complicate matters, the patient had been taking potassium iodide.

DR. STELWAGON and DR. SCHAMBERG were each of the opinion that the eruption was caused by the ingestion of the iodide. The subsequent course, however, proved the diagnosis of syphilis. After waiting some weeks for the eruption to disappear and because of the appearance of numerous new lesions of the vesicular type, it was decided best to give mercurial injections. The eruption disappeared entirely under a few injections of gray oil.

**Erythema ab Igne.** Presented by DR. HARTZELL.

Dr. Hartzell presented a typical case of the affection, which was to be reported with several other cases of erythema ab igne in a paper to be published in the very near future.

**Drug Eruption (Bromide or Iodide).** Presented by DR. HARTZELL.

A woman of fifty-three years was presented with an eruption somewhat resembling syphilis. The outbreak had lasted for three weeks and was of the large pustular type, resembling the pustule-crustaceous syphilide. The shoulders, back and the face chiefly exhibited the outbreak.

**Molluscum Contagiosum in a Negro Child.** Presented by DR. KNOWLES.

The patient, a jet-black negro child of six years, was presented because of three things: the fact that the lesions were noted in one of this race, that the lesions were unusually large (two were the size of chestnuts) and that the scalp showed a large number of lesions. There were altogether three dozen lesions, and although about a half dozen were observed on the eyelids, the remainder were noted on the posterior surface of the neck and the scalp. The lesions were absolutely typical, although several showed pigmentary changes because of the blackness of the skin of the patient. Although a few of the lesions were almost as light in color as those seen in the white race, the majority were either of a yellowish-brown or a reddish-black.

**Case for Diagnosis.** Presented by DR. STELWAGON.

A male of thirty-nine years presented symmetrically distributed erythematous-squamous patches on the elbows, the upper arms, the pubic region and the anterior and the posterior surfaces of the thighs. The patches were of a reddish-brown color, dry and intensely pruritic, and had lasted for eight months. They were apparently developing in size and number.

DR. STELWAGON and DR. SCHAMBERG considered the outbreak was very probably eczema with secondary pus infection.

DR. HARTZELL suggested the possibility of the beginning stage of mycosis fungoides.

**Band-type of Lupus Erythematosus.** Presented by DR. SCHAMBERG.

The patient, a woman of twenty-seven years, first noted the appearance of the condition some eight months previously. The disease extended in a band-like manner across the cheeks and over the nose; it was of the vascular type. The nasal mucous membrane showed a reddish, slightly scaly patch, suggesting the possibility that the disease was also present in that location. The ears exhibited similar lesions.

**Erythema Perstans.** Presented by DR. SCHAMBERG.

A male of thirty years, with pulmonary tuberculosis, was exhibited with grotesquely arranged patches over the back, the chest and abdomen, of three years' duration. The patient had lost twenty-five pounds in weight. Itching varied in severity. Some of the patches had disappeared and new ones had appeared since the beginning of the affection. The lesions were of a pinkish-red color, fantastic in design. There was a roughness of the face suggesting seborrhœic eczema.

DR. HARTZELL referred to the various eruptions of the skin associated with a tubercular infection of the internal organs.

**Purpura Following Erythema Nodosum.** Presented by DR. GASKILL.

The patient, a woman of forty-five years, exhibited a purpuric condition of the lower legs which had followed an attack of erythema nodosum. The purpura had persisted for several weeks, fresh hæmorrhages appearing as the old faded away.

**Lupus Vulgaris, Combined with a Probable Lichen Scrofulosorum.**  
Presented by DR. DAVIS.

The patient exhibited was a boy, aged seven years, who presented a linear lesion, extending from below the ear, on the left side of the neck, down under the chin. Two one-quarter-dollar-sized patches ran in to this linear lesion. There was also an eruption scattered over the trunk which resembled markedly a lichen scrofulosorum. The duration of the latter eruption could not be determined.

**Bazin's Disease.** Presented by DR. DAVIS.

A woman of healthy appearance, twenty-six years of age, presented the characteristic lesions of an erythema induratum scrofulosorum, on the lower and middle one-third of the anterior portion of the left leg. The

condition had prevailed for some years. The lesions had been healed on several occasions by absolute rest and mild external applications. The original attack was first observed some years ago.

**Xanthoma Tuberosum Multiplex.** Presented by DR. DAVIS.

An Italian of twenty-three years exhibited a marked example of this disease. The condition first developed nine years ago and since then there had been numerous new lesions and the other tumors had become still larger. Fully twenty tumors were present, from split-pea to fist in size. The knees, elbows, buttocks, hands and fingers exhibited the outbreak. Through the courtesy of Dr. Davis, this case will be reported in detail at some future time by Dr. Knowles.

FRANK CROZER KNOWLES, M.D., *Reporter.*

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MANHATTAN DERMATOLOGICAL SOCIETY.

November, 1911.

M. B. PAROUNAGIAN, *President.*

**Miliary Tuberculosis of the Cutis and Subcutis: Lower Lid and External Canthus.** Presented by DR. SATENSTEIN.

In June, 1911, the patient noticed on the upper lid a small styelike lesion, not much inflamed; it grew larger and broke about the end of August, exuding a seropurulent fluid. During the next four weeks it swelled in both directions. The lower lid then became involved. He first noticed a small ulceration where the lesion was then present. When admitted to the City Hospital, congestion of the palpebral and ocular conjunctivæ was present. The iris was muddy. Otherwise about the same as when presented. When presented the left eye showed the movable portion of the upper lid to be swollen; the fixed part œdematous and no infiltration palpable. The lower lid was swollen; the central portion of the outer half was occupied by a deep-seated, sharply defined, painless, clean, granulating ulceration; the surrounding tissue was firm but not painful. Just beyond the external canthus was an infiltrated area about one-half inch in diameter. A section from this area was examined by Dr. J. H. Carkins (Pathologist, City Hospital). There was thickening of the endothelium of the vessels, numerous early formed giant cells and many miliary tubercles which showed no tendency to necrosis. The diagnosis was miliary tuberculosis of the skin and subcutaneous tissue.

**Adenoma Sebaceum, Pringle Type.** Presented by DR. GOTTHEIL.

The patient was a female, aged sixteen, a Hungarian, and six months in this country; she could give no definite history of her eruption, being decidedly deficient mentally. Her memory was so bad that she was unfitted to work as a nurse girl.

Her face and especially the sides of her nose, her cheeks, and her chin and lips, were studded with multitudes of pin-point to small pea-sized, soft, moderately elevated tumors, of a color varying from bright orange red to brown. Most of them were very small and bright red; but the larger ones lost their regular rounded shape, became elongated or irregular, and got darker in color. On the alæ and sides of the nose the small tumors were aggregated into closely sown masses; over the rest of the face they were isolated. On each side of the base of the neck were groups of different lesions, small, brown, filiform papillomata, interspersed with minute, circular, slightly depressed scars. No history was obtainable as to the origin of these scars. On the middle of the sides of the neck the papillomata were fewer, less elevated and more like pigmentary nævi, and a few distinct adenomatous lesions with a few scattered, small pigmentary nævi among them.

The case was one of the variety of adenoma sebaceum described by Pringle, as opposed to the non-pigmented and less numerous tumors recorded under the same name by Balser, combined with nævi of the filiform and pigmented variety. Mental deficiency was a condition that had been noted in almost every one of the recorded cases.

**Malaria Cured by Arsenobenzol.** Presented by DR. GOTTHEIL.

The patient was a colored woman aged twenty-two, admitted to the female dermatological ward of the City Hospital, Oct. 6, 1911, for two exulcerated, deep gummata of the legs, a large one on the right and a smaller one on the left calf. They had started six months before, and had repeatedly partially healed and had then broken down again under intermittent dispensary treatment of the ordinary kind. The Wassermann test was made October 11th and was positive. The temperature and the general condition were normal on admission. On October 9th, she had a chill, with a temperature of  $105.6^{\circ}$ ; on October 10th, the morning temperature was normal; she had a chill again in the evening, with a rise of temperature to 102 degrees at 9 P.M. Segmenting and ring forms of plasmodium were found in the blood; diagnosis, double tertian infection. The patient was given an intravenous arsenobenzol injection, 0.6 gm., on October 13th. The temperature was normal all day; there was no chill. October 14th, no chill or temperature; the blood examination for plasmodium proved negative. October 27th, she had had no signs of the malarial infection; the blood examination was negative again. The gummatus lesions were healing slowly. She was discharged a few days later without any return of her malarial symp-

toms. There had been no other medication. The speaker was aware that the reports as to the influence of arsenobenzol on the plasmodium had not been encouraging; but this one certainly seemed to have been an exception to the rule.

**Benign Pemphigus.** Presented by DR. GOTTHEIL.

This patient, now aged seventeen, had been at Randall's Island for a number of years, and was an apparently permanent inmate of the female dermatological ward of the City Hospital. Her malady had been present since her second year of life, getting only slightly better at times under every imaginable form of treatment. Her general physical condition was excellent; her functions were normal. Practically her entire integument, however, was the seat of a bullous eruption, the lesions of which varied from large, serum-filled blebs to small, beginning vesicles; interspersed with these were the denuded areas that marked recently ruptured blebs and the stains that were the remains of older lesions. Occasionally the blebs became infected and a wet dressing had to be employed; but these occurrences did not seem to interfere with her general health to any extent. Sometimes, due to accidental injuries, hæmorrhages occurred in the blebs; this was very liable to occur to lesions on the hands and around the nails, so that these latter were more or less irregular and deformed. The mucosæ had never been affected. The patient's mentality was decidedly subnormal. The speaker had entertained the idea of a possible epidermolysis bullosa in an eruption of this severity and persistence, without progression or involvement of the general health; he was quite unable, however, to determine the fact that pressure or other injuries had anything to do with its occurrence. Bandaging the limbs in cotton for prolonged periods seemed only slightly to interfere with their appearance. The writer had presented this case as an instance of benign pemphigus; but in view of all the facts it was questionable whether it should not rather be classified as an extremely extensive instance of pompholyx. Certainly, outside of the bullous nature of the skin lesions, the case presented no resemblance at all, even to the most chronic forms of pemphigus vulgaris.

DR. KINCH had observed this case for a long time at Randall's Island. When the patient was on arsenic or quinine the lesions were fewer in number. This was noted most when the patient had been on long continued treatment with the above mentioned drugs.

DR. PISKO had also seen this case at Randall's Island. He found that when one of the extremities was carefully bandaged and the bandages were kept on, no new lesions appeared and those present disappeared with no further treatment. The slightest injury was followed by the appearance of a vesicle. There never were any lesions on the visible mucosæ.

**Chancre of the Upper Lip.** Presented by DR. OCHS.

The patient was a male adult, thirty-six years old. He presented on the inner surface of the upper lip a hard, ulcerated area, with slop-

ing edges, which were undermined and not painful. There was no adenopathy. The patient had a heredosyphilitic child. The wife of the patient had acquired her infection previous to her marriage. Up to four weeks ago, the husband had escaped infection. No secondaries were present. Spirochætæ were found in the secretion from the ulcer of the lip.

**Lichen Planus in a Two-Months' Old Male Infant.** Presented by  
DR. PISKO.

The lesions were present for the past two weeks. There was a general eruption of the typical, small-sized lichen planus papules.

DR. MACKEE could see nothing that would suggest lichen planus in this case. It resembled a retrogressing papular eczema. The individual lesions were not angular, flat topped, nor shiny, and there was more desquamation than was customary in lichen planus.

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REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

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Assisted by

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(1912, cxi, No. 3.)

Abstracted by Udo J. Wile, M.D.

**Concerning the Fat Content of the Epidermis Cells in Parakeratosis.** A.  
CEDERCREUTZ, p. 739.

Cedercreutz examined the skin in ichthyosis nitida, in condyloma acuminata, and in seborrhœic eczema in order to demonstrate the position of fat in the epidermis cells. He concludes from his studies thus made that in parakeratotic conditions of the skin fine droplets of fat occur in the most superficial layers of

the epithelium. Similar and at times even larger droplets of fat are also found in the parakeratotic horny layer. These fine intercellular fat drops, together with extremely fine perinuclear droplets of fat in the cells of the stratum Malpighii, give seborrhœic eczema its fatty appearance. According to the author, the fat does not take its origin from an increase in the sebaceous gland secretion, but is produced itself in the parakeratotic cells, and for this reason Cedercerentz believes the name "eczema sebiferum" would be better than "eczema seborrhœicum."

**Microscopic Investigation in Chronic Pemphigus.** B. LIPSCHÜTZ, p. 675.

In this paper is detailed an elaborate study of the subject of pemphigus and some entirely new histologic findings are reported. If these can be corroborated they will serve without doubt to clear up the ætiology of this hitherto little understood dermatosis. Lipschütz studied during a period of several years eleven cases of pemphigus and pemphigoid eruptions, and he reports the finding of two distinct parasites which he claimed to have discovered in the serum contents of the bullæ, and in one case in the aspirated blood from the spleen. He described an organism which he has named "Cystoplasma oviforme" with the following characteristics: The organism is small, measuring 1.5 to 2.7 micra. It is usually egg shaped and has a nucleus which is eccentric, extending through the margin of the cytoplasm or just bordering the periphery, giving to it a signet ring shape. This organism is, according to the author, not invariably found in the same case. There are times when it is absent, and at times again when it is present in large numbers, suggesting a cyclic existence. The second organism is considerably smaller, and the author has named it the "Anaplasma liberum," inasmuch as it occurs extra-cellularly and furthermore has practically no cytoplasm, being made up entirely of chromatin or nuclear substance. The exact relationship which the "Cystoplasma oviforme" bears to the "Anaplasma liberum" is not made clear. Lipschütz believes that he can definitely rule out cellular and nuclear degenerative changes, and that he has really found a parasite which has distinct uniform morphology and uniform tinctorial characteristics. Of great interest is the fact that he found the organism present in cases which would pass as true cases of dermatitis herpetiformis, suggesting that the latter disease is not a distinct entity but rather an aberrant form of true pemphigus. The details of the technique of demonstration and the elaborate exposition of the subject cover pages, and hardly permit of a good short abstract. To be properly appreciated the article should be read in its entirety, as it is of absorbing interest to all dermatologists.

**Concerning the Fat Content of the Epithelium of Seborrhœic Warts.** A. CEDERCERENTZ, p. 743.

In this paper the author endeavors to corroborate the results of Pollitzer in his studies concerning the fat content of seborrhœic warts. Cedercerentz used, as in the preceding investigation concerning fat in the epithelium, scarlet red, and he stained sections from several seborrhœic warts taken from the breast of one of his patients. He was able definitely to corroborate Pollitzer's results, finding small numbers of fat droplets in the horny layer, none whatever in the stratum lucidum, and few occurring between the cells in the stratum granulosum. In the stratum Malpighii, the cells were surrounded by chains of fat globules, and around the nuclei also, one saw tiny fat globules in a ring form. The protoplasm of the cells itself was also permeated with very fine fat particles. In the stratum germinativum, larger fat droplets were found, as occurs in the normal skin. The papillæ in the cutis were much richer in fat globules than they are found in the normal skin.

**Neurodermitis Linearis Psoriasiformis.** VIGNOLO-LUTATI, p. 747.

The writer discusses at great length the various dermatoses which seem to have a relation to the innervation of the skin, as first suggested by Blaschko in his monograph on the distribution of certain dermatoses along the course of the peripheral nerves. He describes in detail a case observed by himself in a child of six in whom, following an attack of pain, there appeared on the right inguinal region two parallel, scaly, psoriasis-like lesions of distinct linear form. His histological studies showed this not to correspond with *nævus unius lateris*, but showed the presence of a superficial dermatitis with a desquamating epithelium. In view of the periodic itching which existed in the lesion, the history of pain anteceding the eruption, its linear character and its scaly morphology, the author believes he is justified in designating the lesion as one of *neurodermitis linearis psoriasiformis*.

**A Contribution to the Knowledge of Pseudoxanthoma Elasticum.** K. HERXHEIMER and F. HELL, p. 761.

In this article is described a rather exceptional case of pseudoxanthoma elasticum occurring in a sixteen-year-old boy. The lesions had been present since childhood, showed themselves symmetrically on both cheeks in the form of small, flat ridges, and were of about the consistency of the normal skin. These were investigated histopathologically, and the authors compared them in a very elaborate table to the other cases described in the literature. On the basis of their studies and the review of the literature, they conclude that the main features of pseudoxanthoma elasticum may be summed up as follows:

The disease is found equally in both sexes; may occur at any age but begins very frequently in youth and undergoes very little or no change at all; subjectively, there are as a rule absolutely no symptoms and, at most, a very slight pruritus. The lesions are usually found on the covered parts of the body, less often on the uncovered. They have been described by Darier in the mouth, by Balzer in the endocardium, and with a very few exceptions there is a symmetrical distribution. The color is as a rule yellow, less often brown, ivory or colorless. The clinical picture often gives the impression of a fine network, and is usually composed of small papules, less often large papules or plaques. Histologically, one generally finds in the middle or lower layers of the corium various sizes of sharply circumscribed foci of tangled elastic fibres. These fibres are for the most part swollen, segmented or show various grades of degeneration. As secondary changes, one finds atrophy of the epidermis and of the papillæ, focal infiltrations, increase in pigment and the occurrence of the giant cells. Concerning the ætiology of the condition, the authors express the opinion that this is as yet absolutely unknown.

**DERMATOLOGISCHE WOCHENSCHRIFT.**

(Dec. 7, 1912, IV, No. 49.)

Abstracted by FRED WISE, M.D.

**Keloid of the Neck or Dermatitis Nuchæ Sclerotisans.** TRYB, p. 1491.

After a short resumé on the subjects of acne keloid, ordinary keloid of the neck and dermatitis papillomatosa capillitii, the author notes the characteristic features of the disease forming the title of his article. In the literature of this disease, the main point of contention is whether we are dealing with a dermatosis which is primarily a folliculitis or primarily a keloid. In a typical case, the affection presents itself chiefly at the border of the hair line on the back of the neck; it begins with the appearance of small, split-pea sized, indurated, flat



topped nodules, which soon become prominent, sharply defined and bright-red in color. Gradually these nodules coalesce and become transformed into an infiltrated, flesh-colored, smooth mass, slowly spreading over the back of the neck in a horizontal direction. The hairs involved in the diseased area become twisted up into small coils or some of them criss-cross in various directions, as though the direction of their growth had been altered; these hairs gradually decrease in number until finally they disappear altogether, the finer hairs going first, the coarser hairs following later. At this time the hairs are firmly imbedded in the skin, thus differing from the disposition of the hairs in ordinary sycosis. The skin surrounding the affected area remains normal. Scratching or other forms of trauma may produce moist efflorescences, but usually the affected area is dry.

The author contributes the results of a careful and painstaking histological study of the disease. He found that in the so-called scar keloids there exists a perifollicular infiltrate surrounding the neck of the follicle, there is present a plasmoma of the adjacent cutis and that subsequently a fibroma, originating from the deep layers of the cutis, is finally formed. This form of keloid is differentiated from the spontaneous keloids by the fact that in the latter form there is a marked irregularity in the disposition of the proliferating collagen bundles. In acne keloid of the neck there is a chronic inflammation arising from the hair follicles; a marked proliferation of the spindle cell tissue takes place after the occurrence of a primary perifollicular leukocytosis; then follows the formation of masses of plasma cell aggregations, which later become obliterated by fibroplastic proliferation, to be finally transformed, by the formation of massive collagen bundles, into keloid.

(*Ibidem*, Dec. 14, 1912, lv, No. 50.)

#### **Histological Studies in Two Cases of Papulo-necrotic Tuberculide.** HODARA, p. 1515.

Three papules were examined and showed the presence of a marked inflammatory reaction, with here and there the formation of small necrotic areas in the perivascular connective tissue, arranged in longitudinal or irregularly rounded formations; within these were seen masses of polynuclear leukocytes. In the acneiform tuberculide, the necrosis of the connective tissue in the deeper layers of the cutis was more widespread; the polynuclear leukocytes within these necrotic areas produced pustulation and crusting of the lesions. There was an absence of the typical tuberculous follicle with epithelioid and giant cells, such as are usually observed in cases of tuberculide.

Concluding his article, Hodara draws comparisons between the histological structure of tuberculide and that of parapsoriasis en goutte, Civatte and Milian contending that parapsoriasis is really a form of tuberculide; he disagrees with the opinion of these investigators and points out the marked differences which exist in the histological appearances of these two dermatoses.

#### **The Complete Disappearance of a Number of Warts after Radiation of a Small Portion of Them.** HALBERSTAETER, p. 1522.

A woman presented masses of ordinary warts, which had resisted all of the common forms of treatment, on the backs of both hands. A small, linear aggregation of warts on the right hand was exposed to the X-rays on June 10, the dose being a one-third erythema dose, degree of hardness five and a half of Bauer's qualimeter. On June 17 the same area and another, smaller area were exposed to a one-half erythema dose, the surrounding skin being well protected with tin-foil. On June 26, a mild erythema of the irradiated areas was observed, while the adjacent skin showed some pigmentation. No further exposures were given. Soon after the exposed area became quite inflamed, the warts becoming

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more prominent and intense itching set in. It was then observed that this inflammatory reaction was not limited to the warts which had been exposed to the X-rays, but that all the other warts soon assumed the same inflammatory character. It was not until several weeks later that a subsidence of the reaction took place, to be followed by a complete disappearance of all the warts. To explain this phenomenon, the author suggests that the destruction of a group of warts sets free a specific substance in the blood stream, producing a reaction similar to that of a tuberculin reaction, causing a resolution of the untreated warts.

### The Disappearance of Warts on Both Hands after Radiation of One Hand.

DELBANCO, p. 1524.

The author recounts a case in whom an erythema dose, divided into three sittings, was administered to warts on the back of one hand, in a patient who had them on both hands. The warts on the untreated hand disappeared at the same time as those which had been exposed to the X-rays. He believes this result to be due to a lytic process, analogous to the lytic action of tuberculin, a theory forwarded by Lewandowsky.

## DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Dec. 5, 1912, xxxviii, No. 49.)

Abstracted by CLARENCE ALLEN BAER, M.D.

### Further Experiences with the Use of Acetone-Extracts in the Serum Diagnosis of Syphilis. O. STINER, p. 2300.

Acetone extracts of syphilitic livers are very useful as antigens in the serum diagnosis of syphilis. They are very strong and give positive reactions in positive lues where the alcoholic antigens sometimes do not. The disadvantage of acetone-liver extracts is that only about 10% of foetal luetic livers will yield a suitable extract. For the diagnosis of lues from cerebro-spinal fluid, the acetone extracts are not adaptable. By comparison of alcoholic with acetone liver extracts it is seen that acetone extracts from the liver contain principally the lipoid substances having syphilitic characteristics, while the alcohol extracts contain many other fatty substances from the liver as well.

## ARCHIV FÜR OHRENHEILKUNDE.

(Nov. 28, 1912, xc, Nos. 1 and 2.)

Abstracted by CLARENCE ALLEN BAER, M.D.

### Contribution to the Pathological Anatomy of the Ear in Congenital Syphilis. HOFER, p. 117.

Hofer reports pathological findings in several cases of congenital lues, and shows that in 7 out of 10 cases there was an entirely abnormal formation of the vertebral column; that cartilage was seen where normally and according to the age of the child no cartilage ought be present. The author thinks that the formation of osseous substance was either hindered from forming, or was destroyed subsequent to formation by hereditary luetic processes. Besides bony changes the following changes in the middle and inner ear were noticed: In 5 cases the middle ear showed either free pus or evidences of purulent inflammation in the mucous membrane, or there was hyperæmia of the entire labyrinth, even the

blood vessels of the mucous membrane and bones of the middle ear were patent with blood. In four cases the labyrinth showed a lack of development. The 8th nerve and the dura showed in 2 cases the remains of an inflammation and free pus could be demonstrated. In 4 other cases there were evidences of changes in the dura and nerve, but not enough to draw definite conclusions as to previous inflammation. In 3 cases there were hæmorrhages into the cavities of the inner ear, the 8th nerve, the facial and the dura. Some of these hæmorrhages must, however, have been agonal and not due to luetic processes.

The conclusions drawn are: (1) Hereditary lues manifests itself by disturbances of the ossification processes in the bony structures pertaining to the ear, particularly in the hollow bones. (2) Hereditary lues can cause inflammatory processes in the meninges, on the dura and auditory nerve in intrauterine life. (3) Hæmorrhages into the labyrinths, the nerve roots and dura and in the inner auditory passages are due to congestion and not to syphilis.

## ANNALS OF OTOTOLOGY, RHINOLOGY AND LARYNGOLOGY.

(Sept., 1912, xxi, No. 3.)

Abstracted by CLARENCE ALLEN BAER, M.D.

### Syphilis of the Inner Ear. O. GLOGAU, p. 703.

Syphilis may affect the skin of the external ear, the mucous lining in the middle ear, the periosteum, bone and nerve in the inner ear. The external ear and pharyngeal opening of the eustachian tube are the seats of primary lesions, the middle ear is affected by secondary and the inner ear by tertiary syphilitic tissue changes. Hereditary and acquired syphilis as causative factors must be differentiated in describing the symptoms and pathology of syphilitic labyrinthitis.

The Middle Ear, in secondary acquired lues, may be affected primarily or by extension from the nasopharynx and the external canal. The changes here may be sequelæ of syphilitic alterations in the nose and throat. Tinnitus, impairment of hearing and otalgias may be due to luetic changes in the throat and nasopharynx exclusively. The impairment of hearing and the simultaneous affection of the labyrinth are important diagnostic points. The presence of spirochætae in the exudate and a positive Wassermann are corroboratory.

The Inner Ear. Symptoms appear from 3 to 7 months after the infection. Syphilitic labyrinthitis occurs; shortening of bone conduction, subjective noises and dizziness are present while Rinne's test remains positive. The acoustic nerve may be involved in the secondary or tertiary stages. Tertiary labyrinthitis is met in 7% of all cases of internal otitis and might occur from 1 to 30 years after infection. Symptoms of middle and inner ear involvement are described in detail. The acoustic nerve may be affected by any of the following luetic processes at the base of the brain or within the pyramid bone: (1) primary gummatous neuritis; (2) gummata and periostitis of the pyramid bone; (3) basal gummatous meningitis; (4) chronic inflammation of the dura; (5) syphilitic affection of the outer cranial periosteum. The acoustic nerve may atrophy in manifestations of tabes. In congenital lues the inner ear is more frequently and more severely affected than in the acquired form. Deafness is one of Hutchinson's triad. It occurs usually between the ages of 10 to 30, and is two or three times as frequent in women as in men. Changes occurring in the fœtus or in early childhood usually lead to deaf-mutism. The explanations of the process vary—Hutchinson states that deafness is due to neuritis of the acoustic nerve; Fournier says it is caused by a gummatous process on the floor of the fourth ventricle; others claim the tympanum or nasopharynx must be considered as the main factors. Glogau

emphasizes (1) the importance of tuning-fork tests in dispensary and private practice; (2) the importance, in all cases of labyrinth and middle ear involvement, of a careful history, of inspection and of a Wassermann test; (3) early anti-syphilitic treatment might restore the function of hearing and equilibrium, while catheterization and other routine procedures hasten the destructive process.

**The Wassermann Reaction and Salvarsan in the Diagnosis and Treatment of Syphilis in Ear, Nose and Throat Affections, with Special Reference to the Auditory Nerve.** J. C. BECK, p. 665.

Beck gives a short discussion of the Wassermann reaction and salvarsan indicating the action, methods of application, dosage, indications and contraindications, and complications. Neurorecurrence is discussed more at length. Is salvarsan indicated in luetic affection of the acoustic nerve? Are we justified in advising against salvarsan in patients with a pre-existing labyrinthine nonluetic affection? In both these cases salvarsan should be employed. Can the auditory nerve be affected by salvarsan? Beck says that such affections from salvarsan are temporary and due to either acute or latent changes. The nerves are often infected by the spirochætae and are the most difficult tissues to be reached by salvarsan. The acute nerve symptoms are explained as follows: The spirochætae, through a long period of mercurial treatment, become non-active and mercury fast and additional mercury will have no effect on them. Then when salvarsan is injected it makes them active again. The salvarsan cannot reach the spirochætae within the nerves, but certain endotoxines are liberated and an acute swelling of the nerve results. A mercurial and iodide treatment with a possible second salvarsan will clear up most of these acute cases. The latent nerve affections following 2 to 8 months after the injection are true luetic recurrences, due to incomplete sterilization of the whole system by one or two injections and to the inadequacy of the dose employed, and not due to the toxicity of the salvarsan. Then follows a discussion of ill effects on the special sense apparatus due to salvarsan, with the statement by Beck that in not a single instance in his own cases has there been any trouble with the ears following injection, except a ringing that disappeared within a day or two.

ANNALES DE MÉDECINE ET CHIRURGIE INFANTILES.

(Sept. 1, 1912, xvi, No. 17.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**Concerning Certain Symptoms Said to be Pathognomonic of the Eruptive Fevers.** M. PERRIN, p. 513.

"It is the fate of nearly every new medication to first pass through an era of triumph, then one of criticism and reports of non-success, finally to occupy an equitable position neither better or worse than that of its predecessors." This sentence furnishes the "motif" of Dr. Perrin's paper. There are several symptoms which appears to him to have acquired an undeserved reputation of diagnostic importance.

The first alleged pathognomonic symptom which Dr. Perrin debates consists of the appearance, during the eruptive period of scarlet fever, of paresis or numbness in the extremities with sensations of prickling. Meyer claimed in 1898 that this sign is so constant as to constitute an aid to the diagnosis of early cases of scarlet fever and also of those in which the eruption is absent and desquamation transitory or delayed. Dr. Perrin dismisses the claim that this is a valuable pathognomonic symptom in these words: "The sign in question is

then not constant and moreover is of no use in diagnosis because it is not peculiar to scarlatina."

Pastia of Bucharest has described another sign which he considers pathognomonic of scarlet fever. This is an intense linear exanthem which appears early in the eruptive period and persists through and even beyond it. As with Meyer's sign so with Pastia's, it is claimed that its occurrence is so constant as to confer diagnostic value upon it. Perrin's comment upon Pastia's sign is that it occurs not only in scarlet fever but also in the generality of the erythemata. Thus its service fails at the very time one's need of it is greatest.

A third sign whose diagnostic value Dr. Perrin attacks is Filatou's. The latter claims that the pallor of the lips and chin in scarlet fever is in such marked contrast with the redness of the cheeks that the diagnosis can be made without further examination. That this color contrast is suspicious, Dr. Perrin agrees. That it is pathognomonic of scarlet fever, however, he regards as far from being the case.

Dr. Perrin concludes his paper by discussing the right of the Koplik spots to consideration as a pathognomonic sign of measles. His argument is that, as the spots not only fail to appear in a considerable number of cases of measles but, on the other hand, do appear in a considerable number of cases not measles, therefore the Koplik spots are not pathognomonic of measles. Hence, the prevailing opinion of their diagnostic value must be modified. Dr. Perrin would regard them merely as a manifestation of stomatitis, "punctate epithelial depots which are not essentially different from the ordinary pultaceous deposits. And the tie which binds together all the cases cited is precisely the fact that the process has to do with morbid states, all of which are accompanied by some degree of stomatitis."

(*Ibidem*, Sept. 15, 1912, xvi, No. 18.)

### Three Cases of Buccal Noma Studied from the Bacteriological Point of View. A. ZUBER and P. PETIT, p. 545.

The writers report three cases of noma of the oral cavity, two of which followed measles and one pneumonia. Two died but the third, after receiving an intramuscular injection of 0.10 gr. salvarsan, made excellent improvement.

Bacteriologically, the three cases presented the symbiosis "fuso-spirillaire de Vincent." In the area of necrosis and in the zone surrounding, the tissues were crowded with masses of the bacillus fusiformis and Vincent's spirillum. The organisms became progressively less frequent as the sounder tissues of the periphery were approached. Attempts at cultivation failed. The good result following the intramuscular injection of arseno-benzol in their third case encourage the writers to urge a trial of this method in other cases of noma and in all rebellious cases of stomatitis as well.

### BULLETIN DE LA SOCIÉTÉ DE PÉDIATRIE DE PARIS.

(Oct. 15, 1912, No. 7.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### The Rectal Absorption of the Arseno-Aromatics (606) in the Infant. WEILL, MOREL and G. MORIQUAND, p. 332.

Intravenous injections in infants are impracticable, often impossible. Rectal injections have been tried in adults by several men but the method was abandoned because its results were not brilliant. It was quite otherwise in the cases of children who received rectal injections of salvarsan. The fact that the rectal

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membrane of the child does actually absorb the "606" is attested not only by therapeutic successes of the writers but also by the results of urinalysis.

A certain number of infants in Prof. Weill's clinic was treated by this method of the rectal injections of salvarsan. Of these cases they report three.

The first was in a child of twelve with hereditary syphilis who had bilateral parenchymatous keratitis, perforation of the palate and affection of the nose. The result of the first rectal injection of 0.20 salvarsan was seen within a few days. A week later they gave a second rectal injection of 40 centigrammes which was followed by still further improvement.

The second case was an intractable "Sydenham" chorea of six months' duration. There had been remarkable improvement within five days after the injection.

The third case was also chorea which, however, was less severe than the other. Equally pronounced and rapid improvement followed the rectal treatment in this case. There was an entire absence of local and general reactions in all. Following is the technique of rectal injection: The first dose is of 0.10 of "606," the second of 0.20 and the third of 0.40. In their experience, even the large third dose is well borne. The preparation of the solution is made along the same lines which Ehrlich indicated for preparing the intravenous—employing a dilution of the chosen dose to 100 cc. with physiological serum. To assure rectal tolerance, 5 to 10 drops of laudanum are also added.

The injection is given by means of a syringe with a rectal sound attached which is introduced as high up into the bowel as possible. The solution should be injected slowly and should be retained 3 to 4 hours if possible.

The writers have been so pleased with the results that they recommend the method of the rectal administration of salvarsan as the method of choice in children in all except the urgent cases. They are convinced that absorption occurs in sufficient amount to affect the disease and the usual disagreeable local and general reactions do not occur with this method.

### Remarkable Improvement in a Grave Case of Chorea Treated by Rectal Injections of Salvarsan. WEILL, MORIQUAND and GOYET, p. 337.

A detailed account of the second case described above is here given.

## THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

(Nov. and Dec., 1912, ix, Nos. 107 and 108.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### The Cutaneous Reaction to Tuberculin in Childhood. C. P. LAPAGE, pp. 493 and 532.

Von Ruck's figures show that the cutaneous test gives results closer to the subcutaneous than the conjunctival test does. Lapage believes that the results from the undiluted tuberculin are better than those obtained from the 25% dilution. The greatest disadvantage is that it is apt to produce vesiculation because of the intensity of the reaction. It was his rule in studying the symptoms of the reaction to examine the patient within six hours after the inoculation and again on the first, second and ninth days. To dilute the preparation he employed 20% glycerine and 0.5% carbolic acid.

Regarding the meaning of the reaction, Lapage states that a positive reaction indicates a past or active infection, without however differentiating between them. He agrees that the reaction may be absent in cases of advanced tuberculosis with cachexia and in acute infections. It is a matter of dispute as to

whether repeated inoculations increase or decrease the intensity of the reaction, but Lapage's experience was that the repetition increased the reaction.

Data obtained from 1,000 tests indicated that, with an increase in the age of the patient, there occurred a parallel increase in the number of positive reactions. His statistics also show that, in infancy at least, the test was more likely to be positive if the clinical signs of disease were definite.

The deductions from these facts is that the tuberculin test is of more value in children under two years because, infants being less exposed to disease infections, in them a positive reaction is more likely to indicate active tuberculosis than in older children with greater exposure and consequently greater likelihood of previous infection.

Lapage also advocates making two or three successive tests in case the primary test is a failure. He compared the results with human and bovine tuberculin, but failed to detect any marked difference either in their manifestations or in their reliability. The results seemed to be equally good, nevertheless he believes the human tuberculin to be the more reliable and therefore the better choice. In one striking particular the bovine tuberculin apparently did differ from the human, namely, that its reactions seemed to be more intense than those of human tuberculin in the cases of abdominal tuberculosis. Lapage, however, does not feel that the small number of his cases would justify any conclusions from this fact.

JAHRBUCH FÜR KINDERHEILKUNDE.

(Dec. 4, 1912, xxvi, No. 6.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**Angina and Scarlet Fever.** VON SZONTAGH, p. 654.

In a previous article, Dr. von Szontagh asserted his belief that angina and scarlet fever were identical diseases which differed only in the presence or absence of a general systemic reaction. The same pyogenic organisms which produce angina in one case may, in the presence of a "disposition," give rise to the symptoms of scarlet fever in another. The active agent is, however, the same in both directions, *i.e.*, pyogenic bacteria.

In the present paper the same line of thought is followed, but the arguments pro and con are given in much greater detail. The final conclusions are essentially the same as before; that no sharp line of division between the two diseases is possible; that they run into one another; that the symptoms vary, not because of a difference in the causal agents, but because of variations in the individual patients; that scarlet fever is a classical example of anaphylaxis; and, finally, that the present need is the study of "disposition" rather than further bacteriological research.

(*Ibidem*, Nov. 9, 1912, No. 5.)

**A Contribution to the Study of Henoch's Purpura Abdominalis.** A. GARA, p. 573.

Gara reports two cases. The first was in a boy nine years old. The case varied from the ordinary in two particulars. First, the purpuric eruption, instead of preceding the severe abdominal symptoms, did not appear until the third week of the disease. The leading symptoms had been, up to this time, persistent vomiting and obstipation accompanied by severe abdominal cramps and abdominal tenderness. Their intensity had so strongly suggested a chronic invagination—using the term in a broad sense—that operation had been very seriously considered. Fortunately the boy's condition was so good that, in spite

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of the symptoms, no operation was performed. When the purpuric eruption appeared in the third week the preceding abdominal symptoms were explained. The administration of 5 cm. of animal serum was followed by rapid recovery.

Gara quotes a similar case of another writer in which a laparotomy was performed and a small intussusception was discovered.

Gara's second patient had exhibited a tendency to bleeding and purpura for two years. When admitted to the hospital, there were the symptoms of a severe and widespread purpura and also of invagination. Death followed five days after admission. At autopsy, there was demonstrated an invagination of the ileum whose walls were soaked with blood and from whose top there projected downward into the bowel below a polyp-like blood clot. It is Gara's theory that the invagination may actually have been the result of the hemorrhagic process which had so weakened the walls of the bowel that they were unable to withstand the weight of the clot and sagged downward. He believes also that it is not impossible that the absorption of the toxic products from putrid faeces blocked in the bowel, may give rise to the purpuric condition, even in the absence of actual invagination.

### ZEITSCHRIFT FÜR KINDERHEILKUNDE.

(Nov. 30, 1912, v, No. 5.)

Abstracted by HARVEY PARKER TOWLE, M.D.

#### A Simple Method of Determining the Coagulation Time of the Blood. J. MICHELIS, p. 449.

The writer describes a very simple method by which any practitioner may determine the time required for the blood to coagulate. The ball of the finger is first cleansed with benzine. Ether is unsuited to the purpose because of its unfavorable action upon the vessels. The moment when the blood first appears is marked by a stop watch. Thereafter, every fifteen seconds, a piece of filter paper is pressed against the wound until the flow ceases. So long as it is not coagulated this drop of blood will spread itself through the paper. The first spots will be large but, after a certain length of time, they will begin to grow smaller and smaller until at last the now coagulated blood will not spread at all. Since the interval between the taking of each drop was fifteen seconds it is only necessary to multiply the number of drops upon the filter paper by 15 and divide the total by 4 to obtain the number of minutes required for the blood to coagulate.

He reports a number of cases of purpura and other hemorrhagic diatheses in which he determined the coagulation time by this method.

### ARCHIVES DE MÉDECINE DES ENFANTS.

(Nov. 1, 1912, xv, No. 11.)

Abstracted by HARVEY PARKER TOWLE, M.D.

#### Livedo in Childhood. J. COMBY, p. 801.

The ordinary type of this disease is known as livedo annularis or reticularis. There is, however, a more severe type in which the coloration of the skin is diffuse and usually limited to the extremities (cyanosis, acrocyanosis or acro-asphyxia). Intermediate cases connect the two types.

Several plates illustrate the article, giving a very good idea of the appearance of the skin manifestations.



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Dr. Comby states that, contrary to the general belief, livedo is not at all uncommon in childhood. It occurs most often among the hereditary syphilitics, the myxœdematous, idiots of the Mongolian type and in connection with every state of depressed vitality. It occurs so commonly in connection with hereditary syphilis and with tubercular injections, that Dr. Comby regards its presence as extremely significant. The disease may be familial. Among the most frequent causes he mentions cold. He also calls attention to the fact that in a reclining position the manifestations disappear, only to return when the upright position is resumed.

### ARCHIV FÜR KINDERHEILKUNDE.

(Dec. 10, 1912, lxx, Nos. 3 and 4.)

**Typhus Exanthematicus in Children, as Observed during the Epidemic of 1911, at the Morosoff Children's Hospital.** A. MOLODENKOFF, p. 199.

*With 14 curve charts.*

Not adapted to abstracting.

### AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

(Nov., 1912, lxvi, No. 419.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**The Nature and Treatment of Vasomotor and Trophoneuroses.** L. P. CLARK, p. 756.

A long review of the subject, first of the anatomy and physiology of the vasomotor system, then of the various diseases. No references are given, except casually in the text. The article is interesting, but not quite up to date in every respect.

(*Ibidem*, Jan., 1913, v, No. 1.)

**A Study of the Wassermann Reaction in Connection with Hereditary Syphilis.** L. R. DeBuys, p. 65.

In order to satisfy himself as to the reliability of the Wassermann reaction, Dr. DeBuys made 244 tests in a series of 235 cases. After giving the ordinary statistics, Dr. DeBuys analyses his cases from various angles. One interesting statement made is that, in no instance in which both the father's and the mother's blood was examined, was there any difference in their reaction. Both bloods always gave the same reaction.

The greatest interest of his report is in connection with nine so-called "irregular" reactions. DeBuys calls them irregular because the result differed from the reaction which the conditions led him to expect. For example, in two children of the same family their reactions were negative, notwithstanding the fact that the tests of the father and mother were both positive. Although not directly so stated, DeBuys hints that the explanation of these variations may lie in the test itself.

In four cases the children's reactions were negative although their mothers' were positive. The most striking of these four unexpected deviations occurred in a child whose father, mother, three sisters and two brothers were all positive to the Wassermann test. Yet the patient's reaction was negative. The failure

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to obtain the same positive reaction in these children as in the mothers, DeBuys says, may have been due to the fact that the syphilitic processes were inactive or "probably to the reaction."

In three other cases the mothers were negative, the children positive. Case 9 was one of twins, three months old. The mother and one twin were negative. The other twin was positive. DeBuys is unable to explain why this case should have this irregular reaction.

Another example of the unexpected occurred in a baby, eighteen months old, with a condyloma. Treponema were found in the scrapings yet the reaction of the blood was negative to the test.

These nine cases are so contrary to ordinary experience as to again raise the question as to the true meaning of the Wassermann reaction. It should be stated, however, that DeBuys did not use the original Wassermann technique. In all cases of children of three years or more, the Tschernogubow method was employed and in the cases under three years of age the Noguchi.

A history and symptoms suggesting syphilis were obtained in about 55% of the *positively* reacting cases while 20% of the *negative* cases presented one or more of the same suspicious symptoms. One significant symptom present in 85% of the positive cases was an underweight, which varied from a few ounces to several pounds.

### MONATSSCHRIFT FÜR KINDERHEILKUNDE.

(June, 1912, xi, No. 6.)

Abstracted by HARVEY PARKER TOWLE, M.D.

#### The Tuberculin Treatment. KLOTZ, p. 259.

The ideal result sought in the administration of tuberculin is stimulation of the natural production of protective bodies in such fashion and to such degree that the organism shall not be subjected to the undesirable effects of overproduction. Dr. Klotz believes that this end may be attained by a combination of repeated inoculations of the skin after the von Pirquet method, interrupted at intervals with intradermal injections. By this combined method the amount of tuberculin absorbed is minimal yet exercises a most beneficial effect upon the tuberculous foci. Moreover, he has never encountered the slightest symptoms of general intoxication. The method is therefore as safe as it is easy of application.

#### Eosinophilia and the Exudative Diathesis. E. ASCHENHEIM, p. 269.

Three hypotheses are discussed in this paper: first, Rosenstern's teachings (1909) that, contrary to the belief in the Munich Clinic, eczema and eosinophilia are coördinate manifestations of the exudative diathesis; second, Staubli's (1910) more radical theory that eosinophilia is an expression of the exudative diathesis which may persist even after the disappearance of all other manifestations, that is, as a latent symptom; third, Eckert's declaration that an eosinophilia is constant and therefore of weight in the differential diagnosis of the exudative diathesis and that the polynuclear eosinophiles may occur in numbers as high as 30% instead of in the normal 1% or 2%.

Aschenheim objects at the very outset to the assertion that the normal number of eosinophiles in childhood is 1% or 2%. He maintains that it is rather at least 5% and in infancy, even more. He studied from the point of view of these three theories: 1. Children with florid eczema; 2. Children with other manifestations of the exudative diathesis, above all, lichen urticatus.

As he does not agree that the disappearance of the eosinophilia at the same time as the exudative manifestations is an indication of an improvement in the

systemic conditions, the children were examined after the skin had cleared up in order to put Rosenstern's statement to the proof.

On the ground that the exudative diathesis is admittedly a family characteristic, other members of the families of the patients might logically be expected to exhibit one or another symptom of the condition or, if Staubli's theory is correct, to show, at least, an eosinophilia. Accordingly the members of several families were examined to determine the facts.

The conclusions to which these investigations led was that eosinophilia manifests itself more frequently in connection with florid eczema than with the other manifestations of the exudative diathesis. Also, the eosinophilia disappeared with the cessation of the symptoms in the skin. Many other signs of an exudative diathesis were found in the members of the families investigated, without, however, any signs of either eosinophilia or eczema. Vice versa, eosinophilia was discovered in other members of the families of eczematous children but with absolutely no other signs of the exudative diathesis.

(*Ibidem*, August, 1912, xi, No. 8.)

### The Sun Cure of Tuberculosis. ROLLIER, p. 357.

The use of the sun for the treatment of disease was known as far back as 484 B.C. when Herodotus extolled its virtues. With the passing of the Roman solarium, however, the method fell into disuse. It was revived by Bonnet in 1840 but made slow progress until Finsen's remarkable discoveries of the properties of light gave the sun cure a fresh impulse and new life.

In 1903 Dr. Rollier established, in the Waatlander Alps, the first clinic for the systematic employment of the sun's rays in the treatment of surgical tuberculosis. He has now an institution of 450 beds, in which both children and adults are received and all forms of tuberculosis are treated. While its distinguishing feature is the use of sunlight and mountain air, equally great emphasis is laid upon the value of concomitant general hygienic measures. For the latter reason, the tonic effects of elevation combined with a maximum amount of sunshine were sought high up in the mountains. In order to gradually accustom the patients to living in the rarefied air, three clinics were built at different levels, the lowest at 1,250 metres, the second at 1,350 and the third at an elevation of 1,500 metres.

Before selecting the site for his institute, Dr. Rollier caused an interesting series of comparisons to be made of the properties of the ultra-violet rays of sunlight upon the plains and upon the mountains. Among other facts, it was found that on the plains the rays showed much less intensity than upon the mountains. It was also demonstrated that in the dry mountain air their bactericidal properties were immensely greater and that their intensity varied less with the season of the year than on the lower levels. The mountain site also showed other advantages over the lowland, such as longer enduring sunshine, the increased chemical action of light, and the greater tonic effect of the air.

Like preceding writers, they have confirmed the observations that one of the first effects of insolation is to produce pigmentation of the skin and that the rapidity of the cure is proportional to the degree of pigmentation. The exact rôle of the pigmentation in the cure of disease lacks explanation. Rollier is inclined to believe that the brownish pigment excites a sort of fluorescence which transforms the short ultra-violet waves into the longer yellow and red of the other end of the spectrum, which have greater power of penetration and which have also been demonstrated to possess greater bactericidal activity.

As a result of his nine years' experience, Dr. Rollier does not hesitate to assert that the mountain sun cures all forms of surgical tuberculosis in any stage and without regard to the age of the patient. Closed tuberculosis always heals if one knows how to wait and above all if one knows enough not to try to convert it into an open process, *i.e.*, to avoid surgical interference. "A lessening

of the vitality of the tissue is unavoidable in operating. If the bacillus is not directly transplanted, the procedure means, in the majority of cases, a slow but sure death through the toxæmias resulting from the mixed infection introduced."

To regard a surgical tuberculosis as a local disease is a fatal error. It is a general disease, of all the infections the one in which the condition of the soil, the individual power of resistance, plays the dominant part. Rollier lays the first emphasis, therefore, upon the necessity of strengthening the organism as a whole. To these measures, however, may then be added rational local treatment.

The sun cure is administered according to a definite method, the growth of years of experience, which is modified to suit the individual case. In essence, the idea is that the patient should live the year round in the open air at a high altitude and that a full exposure of the whole body to the sun and air is as essential to good results as an exposure limited to only the affected part. The patient devotes the first few days to accustoming himself to the high altitude. This accomplished, he is given exposures in carefully graded doses. First, the feet are exposed to the sun for ten minutes. Then the dose is increased on the second day by exposing the feet three times to the sun for ten minutes and the hands once for five minutes. Each day a fresh part of the body shares in the exposure until all have been included. Sooner or later the whole body has become pigmented, which is the result sought. During these "tanning" exposures, the greatest care is exercised to avoid even a trace of erythema solare.

Dr. Rollier's experience has led him to the definite conclusion that the quicker and more intensely the pigmentation of the skin follows exposure, the more rapid will be the healing. "It is certain that the patient's power of resistance stands in direct relation to his pigmentation. Blonde skins, poor in pigment, are in general less resistant and recover less rapidly than brunette. The difference is even more noticeable in the red-blondes, who become hardly at all pigmented and in whom it is common knowledge that the prognosis is unfavorable."

Among other things especially noticeable are Dr. Rollier's statements that a bronzed skin is never the seat of acne or furunculosis, that the full sun-bath has a decongesting effect and that one of the first symptoms of the local effect of the sun treatment is the relief from pain.

The action of the sun upon tuberculous adenitis is above all one of "solution" (dissolving). The glands are resorbed and disappear spontaneously or soften and heal quickly, leaving no trace. In isolated cases, the entire broken down packet of glands is thrown out of its fibrous capsule like a nut from its shell. Sequestra have been seen to be discharged in a like manner.

Serofuloderma, tuberculides and lupus are all favorably affected by this sun cure, as are also diseases of the mucous membranes.

"Not only must man live by bread but also by air. We must not forget that side by side with nourishment through the digestive organs and the lungs it also obtains it by means of the skin. The skin is not merely an organ of elimination and sensibility. It distributes throughout the organism the strength-giving oxygen which it takes up from the light and the sun."

#### MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

(July 16, 1912, No. 29.)

Abstracted by FAXTON E. GARDNER, M.D.

#### On the Treatment of Gynæcological Skin Diseases with X-rays. RUNGE, p. 1597.

The author has treated two cases of vulvar pruritus with good success; two cases of kraurosis vulvæ without any apparent benefit.

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### **A Short Report on Eight Cases Treated with Neosalvarsan.** GRÜNBERG, p. 1607.

Nothing new on the advantages of the administration of neosalvarsan compared with salvarsan.

### **Concerning the Wassermann Reaction in the Cadaver.** WOLFF, p. 1614.

Wolff thinks that Gruber's results do not mean much, as the Wassermann reaction is very frequently positive in the cadaver, even in non-luetic cases.

(*Ibidem*, July 23, 1913, No. 30.)

### **Concerning the Idiosyncrasy to Salvarsan.** ZIELER, p. 1641.

The exanthems sometimes observed after the use of salvarsan are symptoms of a special susceptibility to arsenic. Though they appear after a long incubation period (which becomes shorter in cases of repeated injections), there is nothing to show a relationship to serum disease or anaphylaxis. We have to deal here with an idiosyncrasy, intensified by cumulation effect. The latter can be evident (functionally speaking) after one single injection. There does not seem to be any congenital idiosyncrasy.

The skin inoculation with salvarsan is unable to demonstrate the existence of, or to measure a previously existing or acquired idiosyncrasy. It may give a very weak reaction, while an infusion of salvarsan will be followed by marked toxic symptoms, and vice versa.

### **The Significance of Modern Methods of Diagnosis and Treatment in Cases of Isolated Disturbances of Pupillary Reaction in Syphilitics.** DREYFUS, p. 1647.

The writer had made more than 700 lumbar punctures in such cases, the clinical aspect of which shows all possible combinations.

In the main his findings are those of the earlier workers in this field, with minor discrepancies. All of this confirms the extraordinary frequency of lues as a factor of pure pupillary disturbances and emphasizes the value, nay, the necessity in those cases, of a complete chemical, cytologic and serologic examination of the cerebro-spinal fluid.

Eight examples are given in detail, showing some of the clinical associations most frequently met with.

### **Contribution to the Study of Syphilitic Reinfection after Salvarsan Treatment.** WUSTENBERG, p. 1666.

One apparently unquestionable case of reinfection is described in a man treated in October, 1910, for a hard chancre, with three salvarsan injections, in whom no secondaries appeared, and who, in May, 1912, four weeks after a suspicious intercourse, developed three hard chancres and secondaries.

### **Two Cases of Death after Salvarsan Injections.** HIRSCH, p. 1666.

The author describes two cases: one case of death in convulsions in a young man, apparently without visceral lesions, who received two injections; one death in coma, with marked jaundice, two months after the salvarsan treatment in a young, healthy, strong girl, who was given one injection of 0.3 gm. Unfortunately no autopsy was permitted in either case.

### **A Case of Death after Salvarsan Injection.** HAMMER, p. 1667.

This is the case of a physician who, for a recent luetic infection, from Jan. 17, 1911 to April 12, 1912, received four salvarsan injections and numerous

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mercurial inunctions. After the fourth injection, there occurred insomnia, agitation, three epileptiform attacks and death in three days. Autopsy showed chronic leptomeningitis, punctiform cerebral hæmorrhages, chronic endarteritis and endocarditis and cardiac hypertrophy. The first three injections had been very well borne.

(*Ibidem*, July 30, 1913, No. 31.)

**On the Treatment of Syphilis with Neosalvarsan.** WOLFF and MULZER, p. 1706.

From 12 cases of hard chancre treated with neosalvarsan the authors conclude that the cicatrization is much hastened by the underlying infiltration and that the adenitis is not much influenced.

The action on secondaries is similar. In 17 cases there were two severe recurrences; the Wassermann reaction remained positive.

Untoward after effects were noted in a large percentage of cases. In one case 3.3 gm. of neosalvarsan gave rise to a complete arsenical paraplegia.

The authors consider neosalvarsan as less active than salvarsan and unable to take the place of the latter. They strongly warn against the "ambulant" use of neosalvarsan.

**Personal Experience with Neosalvarsan.** KALL, p. 1710.

While neosalvarsan undoubtedly has some great advantages, it certainly is more neurotropic than salvarsan and is not applicable to "ambulant" treatment. It is better adapted than old salvarsan for intramuscular injection, but the latter mode does not seem to have any advantages and has been given up.

(*Ibidem*, Aug. 13, 1912, No. 33.)

**Dosage and Use of Neosalvarsan.** DREYFUS, p. 1798.

(Concluded in No. 34.)

**What Aid Does the Wassermann Reaction Give, in Actual Practice, in the Diagnosis of Doubtful Cases.** KOEHMHELD, p. 1804.

The Wassermann reaction is a valuable adjunct to clinical investigations and a link in the chain of evidence; nothing more nor less; and it cannot, *per se*, be made the basis of a diagnosis of syphilis.

(*Ibidem*, Aug. 20, 1913, No. 34.)

**Dosage and Use of Neosalvarsan.** SCHREIBER, p. 1850.

Arsenical exanthemata are more frequent with neosalvarsan than with salvarsan. So are also untoward complications affecting the nervous system, and a few cases of death have been reported. It seems that the doses heretofore employed in Germany are too high and cause cumulative effects, and that the interval between injections is too small. Schreiber ascribes the untoward effects to a condition similar to anaphylaxis.

Schreiber advises to begin with 0.4 or 0.3 gm. and to wait two weeks before the next injection and to keep the same distance between injections. Smaller doses are efficient.

A preliminary course of mercurial treatment avoids post-salvarsan reactions. Between the injections mercurial treatment must be kept up.

If possible, always use freshly distilled water. A 4 to 1000 saline solution is the best solvent.

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### **Dosage and Use of Neosalvarsan.** DREYFUS, p. 1857.

Dreyfus' article is a plea for high doses in salvarsan treatment: in all stages of syphilis and parasyphilis insufficient salvarsan treatment can do harm. It is better not to give any salvarsan at all than to give insufficient doses; it would be better not to give any salvarsan at all than to give doses aggregating only 3 or 4 gm. High salvarsan doses (5 or 6 gm.) plus mercurial treatment, the whole given within 6 to 8 weeks, is the best method of procedure.

(*Ibidem*, August 27, 1912, No. 35.)

### **Results of Salvarsan Treatment in the Austro-Hungarian Armies.** MOLDOVAN, p. 1902. (Concluded in No. 36.)

### **Aural Indications and Contraindications to the Salvarsan Treatment of Syphilis.** BECK, p. 1905.

The middle ear catarrh frequently observed in the secondary period generally depends on a preëxisting inflammatory condition. It does not contraindicate salvarsan.

When the internal ear is normal, no contraindication to salvarsan exists. When it is diseased, either the involvement is only part of a general process and salvarsan is indicated, or it exists alone. When it exists alone and depends on a preëxisting condition it does not contraindicate salvarsan. If it develops in an otherwise apparently healthy subject, syphilis must always be borne in mind, even if the Wassermann reaction is negative. When it occurs in patients who 4 to 8 weeks previously had been treated with salvarsan, it contraindicates the latter and requires mercurial treatment. Otosclerosis gives no indications for or against salvarsan. Whether the latter ought to be given to combat the aural manifestations of hereditary syphilis is still an open question.

### **Contribution to the Serum Treatment of the Dermatoses of Pregnancy.** VEIEL, p. 1911.

Veiel had occasion to treat a severe case of bullous disease in a pregnant woman. When all ordinary measures had failed, he resorted to injections of fresh sterile serum from another healthy pregnant woman. A first injection (10 cc.) brought about a marked improvement, followed by a relapse. A second one (20 cc.) was followed by a cure. In these serum injections we have an efficient treatment against herpes gestationis and impetigo herpetiformis in pregnant women, two conditions against which hitherto our efforts were unavailing.

(*Ibidem*, Sept. 3, 1912, No. 36.)

### **Three Cases of Extreme Papillary Stasis after Salvarsan Injections in Syphilitics.** VOLLERT, p. 1960.

Vollert had never seen cases of this kind before the advent of salvarsan. In all there was a tremendous fall in visual acuity and very slow recovery. One case was accompanied by a facial paralysis. Vollert would restrict the use of salvarsan to those cases which are refractory to mercury.

### **On the Reactions of Hypersensitiveness after Salvarsan Injection.** CRONQUIST, p. 1960.

The author records a case of swelling of the face, hands and feet with a morbilliform exanthem, followed by recovery. The dose was 0.4 gr. Two subsequent injections of the same dose were followed by no reactions.

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**Results of Salvarsan Treatment in the Austro-Hungarian Armies.** MOLDOVAN, p. 1961.

Moldovan has treated more than 2,000 soldiers with monoacid intragluteal injections, in most cases with one single injection. He claims 73.88% of permanent cures in cases of chancre, 61.36% in cases of secondaries, 67.39% in latent cases, 62.07% in tertiary cases. He has seen two cases of reinfection.

(*Ibidem*, Sept. 10, 1912, No. 37.)

**Untoward After-effects after Intramuscular Injections of Ioha.** STEIGER, p. 2000.

Ioha is a 40% suspension of salvarsan in iodipin. It is satisfactory, in small doses, for the treatment of children. Full doses in adults may result in chronic deposits of arsenic, painful infiltrations and even necrosis of tissues.

(*Ibidem*, Sept. 17, 1912, No. 38.)

**On the Influence of Febrile Processes on Parasyphilitic Lesions of the Central Nervous System.** FRIEDLÄNDER, p. 2038.

An intercurrent febrile process often has a favorable influence. As a temperature producing agent, Friedländer has used old tuberculin. He reports two cases in which tuberculin and mercurial inunctions were used. The first case (general paralysis) showed some improvement, with reappearance of the patellar and pupillary reflexes; but three months later, the progress of the disease became marked and the patient died. In the second, where symptoms were mild and the Wassermann positive, complete cure was obtained.

**Favorable Influence of Salvarsan in Tabes.** LEREDDE, p. 2040. (Concluded in No. 39.)

(*Ibidem*, Sept. 24, 1912, No. 39.)

**Experimental Researches on Syphilis of the Eye.** IGERSCHEIMER, p. 2089.

By means of intraarterial injections of cultures of spirochætæ (in the common carotid) it is possible to produce in the eyes of rabbits diseased conditions, absolutely typical and in part identical with the lesions of ocular syphilis in man. There are typical changes in the fundus from the day following the injection (acute chorioiditis). The author has also obtained a typical parenchymatous keratitis, and iritis.

**On Neosalvarsan.** WECHSELMANN, p. 2099.

Wechselmann considers high doses of neosalvarsan as clinically and serologically less active than the corresponding doses of salvarsan. But small doses are sometimes very efficient. Unpleasant after-effects are not observed after the injection of old salvarsan, if freshly distilled water is used. Neosalvarsan is more neurotropic than the old; the dosage must be more careful than heretofore. It remains to be seen whether the advantages of easier technique will overbalance the disadvantages of neosalvarsan.

**On Luetic Chorea.** FLATAU, p. 2102.

Two cases are published in which the anamnesis, positive Wassermann reaction and efficacy of mercurial treatment demonstrated the syphilitic nature of the condition, despite the statement of many authors that syphilis and chorea have nothing in common.



## REVIEW OF DERMATOLOGY AND SYPHILIS 201

**Pellidol and Ozodolen in the Treatment of Exudative Eczema.** BANTLIN, p. 2017.

Pellidol is a non-toxic derivative of scarlet red, easily soluble in fats and oils. Ozodolen is a combination of the same with iodalbumin. Pellidol is used in a 2 to 4% ointment. Bantlin claims exceedingly good results in 20 cases of infantile eczema.

**Favorable Influence of Salvarsan on Tabes.** LEREDDE, p. 2112.

Leredde, for many years, has been an ardent advocate of intensive treatment of tabes, a few years ago with high doses of mercury, now with salvarsan.

Tabes is syphilitic, not parasymphilitic, in nature and curable by antisymphilitic treatment. The results depend on the treatment by salvarsan or neosalvarsan in doses of at least 0.01 gm. (salvarsan) or 0.015 gm. (neosalvarsan) per kilogram of body weight, and the continuation of the treatment up to the disappearance of all clinical symptoms and of the Wassermann reaction.

(*Ibidem*, Oct. 15, 1912, No. 42.)

**Salvarsan in the Treatment of Syphilitic and Metasyphilitic Disease of the Nervous System.** DONATH, p. 2274. (Concluded in No. 43.)

**Concerning Salvarsan.** FAVENTO, p. 2277.

A short eulogy of the drug.

(*Ibidem*, Oct. 22, 1912, No. 43.)

**On the By-effects of Neosalvarsan.** SIMON, p. 2328.

Simon has given 310 injections. He found that untoward effects are less common after neosalvarsan than after the old, despite of what has been claimed by several authors.

**A case of Death after Infusion of Neosalvarsan.** BUSSE and MERIAN, p. 2330.

The authors record the case of a girl, eighteen years old, with a recent infection. Two infusions of 0.6 gm. neosalvarsan were given. Three days after the last injection, epileptiform attacks, and death in 12 hours supervened. On autopsy, multiple hæmorrhages in the nervous system, œdema of the brain, myocarditis and parenchymatous nephritis were found. These cases are due to arsenical poisoning, in the authors' opinion.

**Salvarsan in Chorea.** SZAMETZ, p. 2333.

The author gives a report of a brilliant success after a 0.2 gm. intravenous infusion, in a boy twelve years old. The general condition before the injections was very poor.

**Salvarsan in the Treatment of Syphilitic and Metasyphilitic Diseases of the Nervous System.** DONATH, p. 2342.

Donath has treated 107 cases since October, 1910, and has obtained remarkable results. In two-thirds of the cases of syphilitic hemiplegia, there was either disappearance or regression of the facial and other paralytic symptoms, of the contractures, etc. In other forms of cerebral syphilis there was also marked improvement. In cerebro-spinal and in spinal syphilis, the improvement in the

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symptoms (gait, bladder function, pain) and in the general condition was also observed.

In incipient tabes, the general condition became better in 19 out of 31 cases. Regression of symptoms was noted in a smaller percentage of cases. In 28 cases of general paresis, the pupillary reactions reappeared in 3 cases, the gait became steadier in 4 and speech improved in 11 cases. The general condition was much benefited in 18 cases, the intelligence in 8 cases. In 3 cases complete ability to work was restored.

Salvarsan has over mercury the advantage of its strengthening influence. In general paresis Donath advises the combination of sodium nucleinate with salvarsan and in real syphilitic conditions, that of mercury and iodine.

(*Ibidem*, Oct. 29, 1912, No. 44.)

### Pure Cultures of the Microbe of Venereal Granuloma. MARTIRRI, p. 2378.

The author has cultivated on blood agar and on blood broth, Gram negative, encapsulated diplococci which had been found in the pus and on sections. He believes this microbe, which is similar to those described by Siebert, Füllaborn and Mayer and Flu, to be the cause of venereal granuloma.

### Hemiplegia in an Early Stage of Syphilis. SCHLÜCHTERER, p. 2395.

The author reports in detail a case of syphilitic hemiplegia, 10 months after infection, in a woman twenty-one years old, who recovered after 5 intravenous injections of 0.1 gm. of salvarsan, combined with mercurial and iodide treatment.

In this case the infection, which came from the husband in whom the disease was latent, assumed from the outset a malignant character.

(*Ibidem*, Nov. 5, 1912, No. 45.)

### On Neosalvarsan. STÜHMER, p. 2447.

From animal experiments, Stühmer maintains 0.2 gm. per kilogram as the dosis tolerata. The toxic symptoms are probably due to some proteid substance that is formed under the influence of neosalvarsan (anaphylaxis of blood corpuscles). Fatal cases depend on the same mechanism. Stühmer reports a case of death in a strong man after 3 injections of 0.75 and 0.9 gm. at a few days' interval. In all these cases there is a typical serum exanthem concomitant with the severe cerebral symptoms. The autopsy generally does not explain satisfactorily the symptoms. The kidney lesions are remarkable; liver necrosis and myocarditis are also found in experimental poisoning. There is no relation between the extent of the lesions and the injected dose. These same lesions can be produced by injections of substances not containing arsenical toxic compounds. The liver lesions were particularly frequent in animals who had received only distilled water and dissolved blood corpuscles. All this tends to establish the rôle played by auto-anaphylaxis in the unpleasant after effects of neosalvarsan. Another point is the special vulnerability of pregnant women in whom auto-intoxication is already marked.

Practically, we must not give more than 0.45 to 0.6 gm. and leave at least 10 days between injections. Intramuscular injections are well borne.

### A Few Remarks on the Causes of Neuro-recurrences after Salvarsan Injections. CRONQUIST, p. 2449.

Cronquist suggests that neuro-recurrences may be due to oxidization of salvarsan when the solution is prepared for more than one patient at a time, or vigorously shaken to hasten dissolution.

(*Ibidem*, November 19, 1912, No. 47.)

**Cure of a Case of Skin Sarcomatosis by Thorium X.** HERXHEIMER, p. 2563.

The injections of one million active units were given every week. The regression began after the second injection; recovery was complete after seven doses. Small doses of thorium X provoke a marked leucocytosis which probably is concerned in the curative process.

About 25 cases of different diseases have been treated by Herxheimer with thorium X.

**Method of Examination of the Cerebro-spinal Fluid in Syphilis.** DREYFUS, p. 2567.

(*Ibidem*, Nov. 26, 1912, No. 48.)

**Researches on the Treatment of Skin Diseases with Human Serum.** HEUCK, p. 2608.

Linsler's method of serum treatment gives promise of good results in many obstinate, chronic, itching conditions, particularly in urticaria, strophulus infantum and senile pruritus; in bullous lesions, Duhring's disease and pemphigus, a more or less marked improvement has been secured in a majority of cases, but no real cure. No success is to be expected in acute or chronic eczema of adults, nor in psoriasis. The intravenous administration is more active, and the mode to be preferred. There are cases in which a small number of injections brings about an aggravation of symptoms; such cases are not suitable for serum treatment. It is yet too early to speak of permanent results.

(*Ibidem*, Dec. 3, 1912, No. 49.)

**Lesions of the Skin Caused after Deep Irradiation with X-rays. Cumulative Action.** ISELIN, p. 2660. (Concluded in No. 50.)

**On the Treatment of Scabies with Salicylnicotin Soap.** KALL, p. 2677.

This method is cheap and clean; there is no offensive smell, no post-treatment dermatitis. It is applied to "ambulant" treatment.

(*Ibidem*, Dec. 10, 1912, No. 50.)

**Lesions of the Skin Caused after Deep Irradiation with X-rays. Cumulative Action.** ISELIN, p. 2739.

Deep irradiations, even when the rays are filtered through 1 mm. of aluminum often cause alterations of the skin, especially atrophy. The aluminum decreases this effect, but cannot prevent cumulative effects. Sometimes the effects appear only after a long time, a year or eighteen months. These alterations are due to primary lesions of the blood-vessels. Deep irradiation of a region containing the nutrient vessels of an area of skin may cause alterations in the latter, even if it has not been directly submitted to the action of the X-rays.

(*Ibidem*, Dec. 24, 1912, No. 52.)

**Severe Arsenic Poisoning after Salvarsan Infusion.** EICHLER, p. 2871.

A case of arsenical poisoning, ending in recovery, and caused by an infusion of 0.5 gm. salvarsan in freshly distilled water containing 0.5% salt.

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Concerning the "Washing" of the Organism in Skin Diseases. BRUCK, p. 2873.

Bruck defends the venesection-saline-infusion treatment of some dermatoses which Heuck (see No. 49) had declared worthless. In dermatoses where a toxic condition is likely to be the underlying cause, this treatment is rational. Bruck has had extremely good results in pruritus, encouraging results in Duhring's disease, doubtful results in eczema and absolutely negative results in psoriasis. Others have corroborated his statements.

### WIENER KLINISCHE WOCHENSCHRIFT.

(1912, xxv, No. 39.)

Abstracted by ERNEST L. McEWEN, M.D.

Dysidrosis Palmaris. H. PASCHKIS, p. 1452.

Paschkis describes this affection as presenting pin-point to mustard-seed sized areas, usually round or circinate, which are covered with a very thin white epidermal layer; sometimes the central portion has exfoliated, leaving a thin white epidermal margin. Pain and itching are absent, but the skin seems abnormally dry; the principal complaint is the cosmetic defect. The palms, and the palmar and lateral surfaces of the fingers are the usual sites; the soles may also be involved. The affection appears only in summer, disappearing with the onset of cool weather. He thinks the condition a true dysidrosis and suggests as a cause, the habitual discharge of small quantities of sweat beneath the superficial layer of the epidermis instead of upon it. This disorder, however, has no relation to the dysidrosis of Tillbury Fox, or the cheiropompholyx of Hutchinson, inasmuch as vesicles are never seen. Though the lesions covered with white epidermis look like dried-up vesicles, Paschkis has never observed vesicles in the many cases he has followed. It is not a hyperidrosis because patients complain that the hands are too dry. As treatment he suggests the use of a 5% white precipitate ointment.

### BRITISH JOURNAL OF DERMATOLOGY.

(June, 1912, xxiv, No. 6.)

Abstracted by FRANK CROZER KNOWLES, M.D.

A Case of Trichophytic Granulomata. J. H. SEQUEIRA, p. 207.

Under the title, "Extensive Ringworm with Ulceration of the Umbilicus," the author described in the British Journal of Dermatology, August, 1908, a case in which the trunk and the extremities were attacked by a scaly eruption, with the formation of button-like granulomata and a large deep-seated, ulcerated area surrounding the umbilicus; there was also nail involvement. The attack began in 1897, the boy being eight years of age. A sister, aged twenty-one, has had the same condition for fifteen years. Fungus of the trichophyton endothrix variety was discovered in scrapings from the scaly eruption, in the ulcerated lesion surrounding the umbilicus, and in the nails. Although the skin lesions were apparently cured after almost two years of treatment, the condition tended to recur in the nails, notwithstanding the fact that they had been extirpated on at least two occasions. The present paper describes the subsequent course of the disease, the condition having relapsed some months before the patient came under observation. The same scaly outbreak was noted upon the trunk,

with rings of dry, scaly, raised papules; flat, button-like nodules were present in the groins. Biopsy showed an inflammatory infiltration of polymorphonuclear leucocytes, clefts filled with desquamated horn and pus cells and other clefts that had lost their epithelium and culminated in abscesses. The abscess was occupied by a granulation tissue consisting of large giant-cells with ill-defined borders and peripheral nuclei. The rest of the derma was infiltrated by very large numbers of lymphocytes, plasma cells and eosinophile granules. Gram positive cocci were found in the pus. Trichophyton filaments were observed in the giant cells. The fungus as grown from the scrapings of the epidermis and found in the granuloma was identified by Sabouraud as the *Trichophyton plicatile*.

(*Ibidem*, Aug., 1912, xxiv, No. 8.)

**The Pathology of the Skin from the Eyelids and the Naso-facial Grooves.**  
J. E. R. McDONAGH, p. 291.

A microscopical examination of the skin at the base of the lower eyelid reveals in almost every individual specialized embryonic epithelial structures, such as lanugo hair-follicles, sweat-glands and sebaceous glands. On a larger scale these structures may be considered as pathologic. When the growth is limited to the lanugo hair-follicles the term "tricho-epithelioma" may be applied, when to the sebaceous glands "sebaceous adenoma," and when to the sweat glands "syringoma." These three classes of tumors consist of nearly mature epithelial cells, or cells which cannot wander from a special form, of a special function, and occur in the corium where they are normally found. This is not the case, however, with the rare tumors, such as epithelioma adenoides cysticum, and multiple rodent ulcers. The cells of these two are of epithelial origin and of a much more embryonal type than are found in the other three conditions. The first three are practically benign while the latter two are of a malignant type. The malignancy is determined by the depth in the corium from which the tumor arises, by the position in which it takes origin, particularly in regard to its relationship to the lymphatics.

The origin of milia is also discussed, whether it arises from a dilated lanugo hair-follicle, a dilated sweat duct, or an epidermic inclusion. Cases are cited of tricho-epithelioma, syringoma, sebaceous adenoma, a mixed tumor consisting of tricho-epithelioma and syringoma, epithelioma adenoides cysticum (Brooke) and multiple rodent ulcer. It is not unusual to find a tricho-epithelioma and a sebaceous adenoma in the same section with a rodent ulcer. The only difference between multiple rodent ulcer, according to the author, and multiple benign cystic epithelioma is the presence of cysts in the latter growth. As has already been mentioned, the most mature cells are found in the true adenomata, viz. tricho-epithelioma, sebaceous adenoma and syringoma. Going back to less mature cells, to a condition which may be said to arise from the lanugo hair-follicle, is seen Brooke's type, which should best be called tricho-epithelioma papulosum. Still further receding, we reach the condition when the origin of the epithelial masses from the lanugo hair-follicle is by no means clear, although as suggested as such lesions are found clinically to be ulcerated they should be called tricho-epithelioma papulosum ulcerans. Lastly, in those cases in which the cells are embryonic and the epithelial masses are formed from the primary epithelial cells before hair-follicles are even conceived, the term rodent ulcer, be they single or multiple, should be applied. Possibly it might be well to limit the term malignant to carcinoma and sarcoma, calling the rodent ulcer an ulcerating nœvus.

The author ends his excellent paper with the following summary: Tumors affecting the orbito-facial and naso-facial grooves are of epithelial origin and atavistic of both the lower eyebrows and the specialized glands found in these regions in many mammalia. There is probably not an individual who will not

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show some trace of epithelial embryonic tissue (naevus) when a section is made from the skin of these grooves. All of the tumors, from a simple lanugo hair-follicle growth to a rodent ulcer, are links in one chain, the former being the head or most mature, the latter the tail or most embryonic. As they are all links, the histological differences, or one clinical entity, is at once explained.

### **A Case of Dermatitis Herpetiformis.** J. L. BUNCH, p. 311.

The case is reported by the writer because of the curious effect veronal has had in changing the outbreak from a vesicular to a bullous type. On each of the two occasions upon which this drug was administered the same phenomenon was observed.

(*Ibidem*, Sept., 1912, xxiv, No. 9.)

### **Rodent Ulcer Occurring on a Patch of Psoriasis in the Gluteal Cleft.** A. M. H. GRAY, p. 325.

A psoriatic, a woman aged fifty-six, presented a typical rodent ulcer of three years' duration in the gluteal cleft. A lump developed in this area ten years ago, but the skin remained intact until three years ago, when ulceration occurred. Although large doses of arsenic had been taken over a considerable number of years, there were no signs of either pigmentation or keratoses. A biopsy proved the diagnosis of rodent ulcer. The author referred to the unusual location of the rodent ulcer and the rarity of this complication in psoriasis.

### **A Case of Gummatous Ulceration Simulating Rodent Ulcer, Treated with Salvarsan.** H. B. PARKER, p. 327.

A biopsy combined with a positive Wassermann test proved conclusively the diagnosis, notwithstanding the marked clinical resemblance to rodent ulcer. The present outbreak appeared only four months after the administration of intramuscular injections of salvarsan. The gumma healed in a little over two weeks, two intravenous injections of salvarsan, 0.6 grammes each, having been given. As the Wassermann reaction was found to be positive two months later, another injection was given.

(*Ibidem*, Oct., 1912, xxiv, No. 10.)

### **A Case of Hutchinson's Infective Angioma.** J. H. SEQUEIRA, p. 355.

Sequeira described a typical case of this affection in a girl aged twenty, who had had the condition since the age of two years, the eruption having been progressive during this period. The whole of the front and the outer side of the right upper arm showed clustered groups of pinkish-red spots, with outlying smaller satellites, resembling markedly, as mentioned by Hutchinson, cayenne pepper grains. Cicatricial areas were absent. A biopsy showed a normal epidermis, engorgement of the vessels in the papillary zone and deeper portions, a little proliferation of fibro-blasts, and the presence of oval bodies which lay in unlined spaces just beneath the epidermis. These bodies were structureless, of a variable size, stained faintly with eosin, yellow in Van Gieson, somewhat deeply by elastin, and were Gram negative. The author was unable to identify or explain the significance of these bodies.

### **On Necrotic Tuberculide.** J. L. BUNCH, p. 357.

Two cases are described by the writer, the first an extensive papulo-necrotic tuberculide, and the second, of the scrofuloderma type, associated with lupus erythematosus. In the first case, which developed in a boy aged twelve and of a

duration of five years, the disease starts as a simple red patch upon which papules develop. The nodules are slightly raised, papular in character, distinctly infiltrated and subsequently leave a shallow scar, one-eighth to one-third of an inch in diameter. A very large number of these scars are present upon the abdomen, chiefly in the neighborhood of the umbilicus, on the inner sides of the thighs, and in the axillary regions. Sections show the characteristic appearance of tuberculosis of the skin, with giant cells but no tubercle bacilli. Tuberculin treatment did not prove of material benefit until Rosenbach's tuberculin was administered; the lesions were apparently cured with the latter preparation. The second case was observed in a woman aged twenty-five, who had had the beginning of the affection at the age of ten years. Pinkish, indurated swellings were noted on the left lower leg, the right leg and the right arm. These swellings broke down, forming superficial ulcers, with irregular edges and of a sluggish, reddish-purple color. The Wassermann test was negative and the von Pirquet reaction positive. There was a consolidated area at the apex of the right lung. Typical patches of erythematous lupus were observed in the latter patient, on the left cheek, the left ear and the scalp.

**On Reflex Irritation as a Cause of Alopecia Areata.** H. E. JONES, p. 362.

Working on the hypothesis illuminated by Jacquet, the writer has thoroughly investigated the possibility of reflex irritation being the cause of alopecia areata. Fifty consecutive cases of alopecia areata were carefully examined as to the condition of the teeth, the pharynx, the naso-pharynx, the vision, the conjunctivæ, etc. In these fifty cases, the ages of the patients varied from five to fifty years; eight showed no carious tooth or decaying stump; twenty-three exhibited affections of one or more of the molars; nineteen presented decayed molars and one or more of the other teeth in the same condition. Four of the cases showed no possible source of reflex irritation; four showed tonsillar hypertrophy, adenoids, defects of vision, headaches, or a combination of these, but with no dental defect; fourteen exhibited carious teeth, and also other possible irritative lesions, such as tonsillar hypertrophy, adenoids, ocular trouble, etc.; twenty-eight exhibited carious teeth alone without other signs of reflex irritation. The bald areas were also classified according to the nerves supplying the affected parts; the alopecia was universal in three cases; in four of the cases the trigeminal nerve supplied the involved areas, on the scalp, the bearded region and the eyebrows; in five, the trigeminal nerve supplied the bald areas of the scalp; in eighteen, the alopecia corresponded to the distribution of the great and the small occipitals, or regions supplied by the brachial plexus only; in twenty, the attacked areas were supplied by the occipitals, the cervical plexus and also the trigeminal.

Although eighty per cent. of the cases had dental trouble of some sort, which implies a possibility of irritation through the trigeminals, in only nine cases, eighteen per cent., was alopecia areata observed in the part supplied by this nerve. To further prove the incorrectness of the observation of Jacquet, fifty consecutive surgical out-patients of a similar age were examined and, notwithstanding decayed teeth were noted in thirty-eight of this number, there was not a single one of these individuals with an alopecia or affection of the hair.

**Rudimentary Marsupial Pouch in Man.** E. WARD, p. 366.

The congenital deformity was observed over the sternum of a boy. The diameter of the pocket was one and one-half inches and the opening measured one-quarter by one-eighth of an inch. There were hair-follicles and sweat glands in the skin overlying the pocket and in the skin lining it. No signs of scar-tissue or traces of old inflammation or injury around or inside of the pocket could be determined.

(*Ibidem*, November, 1912, xxiv, No. 11.)

**The Life-Cycle of the Organism of Syphilis.** J. E. R. McDONAGH, p. 381.

The diseases which have a long incubation period are nearly all due to protozoa. The incubation is long because the infective organism has to go through a cycle of changes before it can give rise to symptoms. Since the spirochæta pallida is a protozoön, is it not possible that it is only one of the phases in the life cycle of the syphilitic parasite? In spite of the fact that apparently all of the organisms of syphilis are killed by one or two injections of salvarsan, the condition recurs. The frequent recurrences are therefore dependent on the cycle which the parasite goes through, in the body of the host. The start of the spirochæta pallida is an undifferentiated coil, which breaks up into spirochætæ, which are short, thick and vary from being almost straight to slightly twisted. In the next stage the spirochæta is finely and evenly coiled, but short, and finally one gets a perfect spirochæta pallida with about fifteen coils. A bulbous condition may be seen at the extremity or even in the centre of the organism, which McDonagh considers is a refractile granule having its origin in a leucocyte, and is simply superimposed on the spiral, rather than a constituent of the same. Certain round bodies were found in sections of syphilitic tissue and in no other disease, or in the normal individual. The author suggests that these bodies are a phase in the life cycle of the syphilitic organism.

The commencement of the cycle is with a sporozite, or infective granule, which enters a cell of the large mononuclear leucocyte type. The sporozite increases in size, or divides, causing degeneration of the protoplasm of the cell. The author goes into the female and male cycles of the organism. McDonagh believes from his investigations that the syphilitic parasite belongs to the order Sporozoa and to the sub-class Telosporidia, since the spores are formed at the end of the cycle. The order is probably the Coccidiidea and the species Leucocytozoön. He therefore suggests the parasitic cause of syphilis should be designated Leucocytozoön Syphilis.

**Rodent Ulcer of the Back in a Boy of Twelve Years.** J. H. SEQUEIRA, p. 391.

The mother of the patient discovered a small, pea-sized "mole" over the left shoulder-blade of her boy of two years. The lesion slowly increased in size until the patient came under observation. The writer found a rounded, flat swelling, three-quarters of an inch above the inferior angle of the left scapula, a sixpence in size. The edge of the lesion was well-defined, rounded, raised and beaded, of a translucent, pink color; a dry, brownish crust was observed on the surface. There was no enlargement of the axillary glands. Biopsy showed a basal-celled carcinoma. The author referred to two other cases of rodent ulcer, the one in a patient of twelve and the other in a girl of fifteen years.

(*Ibidem*, December, 1912, xxiv, No. 12.)

**Notes on a Case of Nævo-Carcinoma (Melanotic) of the Scalp, in a Boy Aged Nineteen Years.** C. H. LILLEY, p. 411.

A smooth, dark area was observed on the left side of the scalp at the time of birth, which became of the type of a pigmented mole at the age of five years. When the patient came under the observation of the writer the growth covered the greater portion of the left side of the scalp and was papillomatous in appearance. The microscopic diagnosis was a pigmented nævo-carcinoma. There were no glandular enlargements or metastases. Maternal impression was mentioned as a causative factor of the nævus.



JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

(Dec. 2, 1912, xv, No. 23.)

Abstracted by ROBERT C. JAMIESON, M.D.

**A Rare and Probably Undescribed Eruption in Smallpox.** L. G. FINK, p. 353.

Fink relates the case of a Burman who came down with smallpox after twenty-one days from the time of exposure. He had been successfully vaccinated fourteen years before the attack. The location and appearance of the lesions were typical of smallpox and there were well-marked "seeds" in the palms and soles. These were due to deep, unruptured vesicles which leave a deep-seated crust and give a sensation of unyielding solidity. It is well known there (Burma) that these "seeds" occur only in smallpox.

Two and one-half months after recovery he had another attack of fever with an eruption like a modified smallpox, although he had not been exposed in the meantime. "Seeds" were also found in this eruption. It was later learned that in rare cases there is a residual eruption after an attack of smallpox with mild skin lesions and adenitis of axilla and neck.

The author is unable to explain the cause of the appearance of this residual eruption.

**Notes on Certain Cell Inclusions.** A. CASTELLANI, p. 354.

In the course of his researches Castellani has often observed cell inclusions which he terms type A and type B. Those of type B were different from type A and were found in various conditions, such as yaws, psoriasis, acne vulgaris, lichen ruber, etc. These bodies are found in both leucocytes and epithelial cells and may be in the cytoplasm or may be intranuclear. They take a bluish stain with Giemsa and are roundish or oval in shape. The author does not regard them as parasitic, but merely as red cells undergoing degeneration.

JOURNAL OF EXPERIMENTAL MEDICINE.

(Sept., 1912, xvi, No. 3.)

Abstracted by ROBERT C. JAMIESON, M.D.

**Pure Cultivation of Spirochæta Phagedænis (New Species), a Spiral Organism Found in Phagedænic Lesions on Human External Genitalia.** H. NOGUCHI, p. 261.

Noguchi has succeeded in isolating a new spirochæta from a phagedænic ulcer on female genitalia. His method for growing the organism is similar to that used for the spirochæta pallida. The organism is strictly anærobic and grows in the presence of fresh tissue in ascitic agar, producing a somewhat offensive odor. Intradermally in monkeys it incites slight inflammatory reaction and acts similarly on the skin and testicles of rabbits. He has been unable to prove this organism to be the cause of phagedænic genital ulcers.

**A Study of the Complement Fixation in Syphilis with Spirochæta Culture Antigen.** C. F. CRAIG and H. J. NICHOLS, p. 336.

The authors have made a long series of tests with antigens made from spirochæta pallida, pertenuis, microdentia and stock antigens upon syphilitics, in all stages of the disease.

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Without going into detail to compare the results obtained with the various antigens, they found that the culture antigens gave reactions in all stages of the disease, more positive reactions being obtained in latent cases, while pallida antigen does not react with rabbit serum even though the disease is in an active stage in the animal. In general, the pallida antigen gave results which closely approached those obtained with stock antigen, but were generally weaker. The microdentia gave almost identical results with the pallida.

They concluded that the reactions obtained with specific antigens are either non-specific reactions due to lipoid substances, produced in the media during the growth of the organisms, or are specific group reactions, such reactions as may exist between the spirochæta pallida, microdentia and pertenuis.

For diagnostic purposes they believe the stock antigens possess a distinct advantage over the spirochæta pallida antigen.

### ANNALES DE L'INSTITUTE PASTEUR.

(October, 1912, xxvi, No. 10.)

Abstracted by ROBERT C. JAMIESON, M.D.

#### Leprosy in Rats. E. MARCHOUX and F. SOREL, p. 778.

On account of the resemblance between rat and human leprosy the authors have experimented on rats with artificially grown lepra bacilli. They verified the statement that the form which extends on the skin and to the muscles is rare, and is most often limited to the subcutaneous ganglia and surrounding tissues.

They think that the external manifestations of the disease may be due to lack of growth at the higher temperature of the internal organs and that spontaneous inoculation is superficial. In their experiments they found no genital contagion.

Animals artificially infected later showed no organisms at the site of inoculation, but they were found in the neighboring ganglia. Insects found on rats do not carry the infection. Inoculation of the virus always gives the ganglionic form, while contaminated inoculations give the musculo-cutaneous variety of lepra.

They draw certain conclusions from their experiments that point to the resemblance between rat and human leprosy: The lepra bacilli are not killed at 60° C. for five minutes, but die in fifteen minutes. The infection follows the lymphatics and if it is greater in the superficial regions it has entered by the skin, although the inoculation site may not be the region of skin most affected. Spontaneous infection is not by way of the genitals, but males may be artificially inoculated through the foreskin even without abrasion.

The disease is not carried by insects, although the itch mites play an indirect rôle by causing breaks in the skin. It may be communicated by contact through clothes or bodily contact, and many people in leprosy districts are infected, but show no symptoms until the body resistance is lowered by some other disease or infection. Insects which cause a break in the skin provide a means of inoculation.

### AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(cxliv, No. 5.)

Abstracted by ROBERT C. JAMIESON, M.D.

#### Observations upon Scarlet Fever, Diphtheria and Measles at the Cincinnati Contagious Hospital. A. J. BELL, p. 669.

Bell observed 300 cases of scarlet fever and some of his results are of dermatological interest. He considers the punctate rash on the soft palate and fauces,

when present, to be one of the most important diagnostic signs, and that it is of especial importance when accompanied by enlarged papillae on the tongue.

The accentuation of the rash in the folds of the skin (Pastia's sign) was so rarely seen as to be of little significance, as was also the Rumpel-Leeds phenomenon—hæmorrhages at the elbow from compression of the upper arm.

Practically no results were obtained with vaccines and antistreptococcic sera, either in treatment or immunization.

(*Ibidem*, cxliv, No. 6.)

**Lupus Erythematosus and Raynaud's Disease.** M. B. HARTZELL, p. 793.

This article cites a number of cases of lupus erythematosus seen by the author as well as the cases of other observers, in which there were pronounced vasomotor symptoms. He believes that there is a real and intimate relation between the two diseases mentioned, in spite of the slight mention made in text books of skin diseases presenting these vascular changes. He presents brief histories of a number of cases having these two affections and believes that they support the view that lupus erythematosus should be regarded as a toxic erythema. He also considers the relationship to be due to the fact that at times there may be a common cause in the circulation, probably toxic, which produces vasomotor and inflammatory changes in the skin and subcutaneous tissues.

**Further Experiences with the Complement Fixation Test in the Diagnosis of Gonococcus Infections of the Genito-Urinary Tract in the Male and Female.** H. J. SCHWARTZ and A. MCNEIL, p. 815.

In this work the authors made use of a polyvalent antigen prepared from different strains of gonococci, testing the reaction in a large number of cases. From their results they draw a number of definite conclusions and think that the test is as reliable as the Wassermann, in some cases even more so.

They conclude as follows: A positive reaction appears not earlier than the fourth week, and then only if more than the anterior urethra is involved. It persists for seven or eight weeks after cure and if it is obtained for a longer period there is still some focus of infection, even though the patient is clinically cured. A negative reaction does not necessarily mean no gonorrhœal infection, as it may be too early in the disease, or the anterior urethra alone may be involved. While this method is simpler and less liable to error than the isolation of the gonococcus in culture, the culture method is the only absolute bacteriological proof in chronic cases, although in women the complement fixation test is more useful.

They obtained positive reactions in 31.4% of post-gonorrhœal cases; in 165 cases clinically cured for at least three years, reaction was positive in 13.2%, while of 62 cases of chronic prostatitis, infected within three years, 54.8% were positive.

**Softening of the Spinal Cord in a Syphilitic after an Injection of Salvarsan.** L. NEWMARK, p. 848.

This is an anatomical supplement to a clinical report of a case of paralysis following salvarsan. The author gives all the pathological findings in the spinal cord, typical of the disease. The paralysis came on fifty-six hours after an intramuscular injection of salvarsan, .3 gm. in each side. The purpose in making this report is to question whether the paralysis came on as a result of the injection or simply as a sequence. While the findings were typical of syphilitic degeneration of the cord, the question still comes up, in view of the increasing occurrence of nerve disturbances after salvarsan, whether these affections are due to the salvarsan or to the luetic infection. As opposed to this question is the

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fact that salvarsan has been administered to a large number of cases which were not syphilitic and which showed no ill effects from the injection.

### NEW YORKER MEDIZINISCHE MONATSSCHRIFT.

(June, 1912, xxiii, No. 1.)

Abstracted by LOUIS CHARGIN, M.D.

#### Salvarsan in Practice. H. G. KLOTZ, p. 1.

Klotz gives an excellent review of the subject and comments as follows: When thorough antisppecific treatment according to the old plan (insoluble salts) is employed, the indications for salvarsan are few.

Observations among many patients treated in this way show them to have been free from relapses, to have had healthy offspring and negative serological findings, the latter from eight months to twenty-five years after treatment. One then can hardly consider it an injustice to continue with this method if no positive indication for "606" exists. The ultimate place of salvarsan in antisyphilitic therapy, time will determine.

### AMERICAN MEDICINE.

(Aug., 1912, vii, No. 8.)

Abstracted by LOUIS CHARGIN, M.D.

#### Syphilis of the Ear, with Especial Reference to the Use of "606." I. W. VOORHEES, p. 419.

The author discusses the various aural disturbances occurring in syphilis and such as are produced by mercury and "606," quoting cases exemplifying each. The treatment of such affections is discussed also. His conclusions embody the essence of his paper and they are: Salvarsan is of value in syphilis of the ear, especially so in recent lues. In old lues it should be guardedly used, especially if degeneration of the cochlear or vestibular nerves be present. It may be of use in congenital deafness due to syphilis if injected while the child is still young.

#### The Modern Treatment of Syphilis. D. A. SINCLAIR, p. 436.

Sinclair describes the method of salvarsan administration and states that he has not given any mercury or potassium iodide to his patients (127 in number) because, in the first place, he does not think it necessary, and secondly, in order to be able to judge of the value of this remedy.

### CLEVELAND MEDICAL JOURNAL.

(Sept., 1912, xi, No. 9.)

#### Concerning the Histological Changes in Certain Organs in a Patient Dying after Salvarsan. H. O. RUM, p. 631.

In this paper the macroscopic and microscopic findings in a patient dying after salvarsan administrations are recorded. The main points are summarized as follows: In a case having the clinical signs of lues with a positive Wassermann, after intravenous injection of .5 grams of "606" in alkaline solution, there followed anuria, which resulted in death after five days. At autopsy there were

found evidences of severe intoxication. The main effects were seen in the kidneys and liver, which showed degenerative changes and proliferation of the parenchymatous elements. These changes were similar to those produced in experimental arsenic poisoning.

**The Visceral Pathology of Syphilis.** O. T. SCHULTZ, p. 660.

Schultz emphasizes the similarity of the early pathological findings in all luetic manifestations, acquired as well as congenital. It is true, he states, that well-developed lesions present gross and microscopic differences, but such changes have a common mode of origin. In each the immediate tissue reaction to the localization of the parasite is the same, and only this can be considered characteristic of syphilis.

**THE LARYNGOSCOPE.**

(Sept., 1912, xxii, No. 9.)

Abstracted by LOUIS CHARGIN, M.D.

**Otitic Indications and Contraindications for the Salvarsan Treatment of Syphilis.** O. BECK, p. 1077.

The middle ear disturbances complicating nasopharyngeal syphilis, associated with involvement of the cochlear nerve and cochlear affections which appear simultaneously with the cutaneous eruption, present no contraindications to salvarsan. In cochlear disturbances which appear independently of clinical manifestations, being regarded as equivalent to a cutaneous recurrence, mercury is the safest remedy, since we are still in doubt as to what rôle salvarsan plays in neuro-recurrences. Otosclerosis in the author's opinion forms a contraindication to the use of salvarsan. Whether "606" is indicated in hereditary syphilis is still an open question.

**Salvarsan in Syphilis of the Nose and Throat.** F. C. COBB, p. 1084.

The experience of the author is that lesions of the throat heal rapidly under salvarsan, whereas those of the larynx do not show such marked results.

**The Effect of Salvarsan on the Ear.** C. E. PERKINS, p. 1089.

Perkins reviews some of the literature and gives it as his opinion that aural symptoms, non-specific in origin, do not contraindicate salvarsan. If caused by a process specific in nature, they furnish a positive indication.

**Syphilis of the Upper Respiratory Tract Treated with Salvarsan.** F. W. WHITE, p. 1096.

The important points brought out are that superficial lesions of the upper respiratory tract yield more readily to treatment than deep-seated ones. In the former, large doses of "606" are indicated. Cases with laryngeal stenosis should be treated in hospitals and the iodides should be either not administered at all or only when definite increase in size of the lumen of the larynx is demonstrable. These cases may develop sudden fatal œdema from the iodides.

**The Wassermann Reaction and Salvarsan in Diseases of the Special Sense Organs.** E. R. CARPENTER, p. 1104.

Carpenter states that it is now generally recognized that both the Wassermann reaction and salvarsan in diseases of the special sense organs are hardly so satisfactory as in the organism as a whole.

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**Chancre of the Tonsil.** N. L. WILSON, p. 1110.

Report of a case of tonsillar chancre.

### JOURNAL OF THE IOWA STATE MEDICAL SOCIETY.

(Sept. 15, 1912, ii, No. 3.)

Abstracted by LOUIS CHARGIN, M.D.

**Salvarsan in Syphilis of the Nervous System.** F. A. ELY, p. 157.

A brief review of the treatment of syphilis of the nervous system.

### LANCET CLINIC.

(Sept. 14, 1912, cviii, No. 11.)

Abstracted by LOUIS CHARGIN, M.D.

**Tuberculin Dosage.** L. B. MORSE, p. 274.

The author points out the faulty methods in use, of increasing the dosage in tuberculin therapy, and describes his own, worked out on a percentage basis. In the writer's table a uniform increase of 30% is constantly maintained, whereas in those of others the percentage increase varies from 11% to 150%. The dose scale of the author is as follows: First dose, .10 cc.; then in succession, .13 cc.; .17 cc.; .22 cc.; .28 cc.; .36 cc.; .46 cc.; .60 cc. and .77 cc.

### SOUTHERN MEDICAL JOURNAL.

(Sept., 1912, v, No. 28.)

Abstracted by LOUIS CHARGIN, M.D.

**Comparative Observations on Biological Characters of Spirochæta Pallida and Pertenuis.** H. J. NICHOLS, p. 528.

Observations lead to the conclusions that though these organisms bear a close resemblance to each other, certain differences in morphology, cultural characteristics, experimentally produced lesions and reactions to drugs do exist. A review of our present knowledge of the biological characters of spirochæta pallida and spirochæta pertenuis throws but little light on their distinctive pathogenic properties and shows the need for further investigation along the lines indicated in this article.

### INTERSTATE MEDICAL JOURNAL.

(Sept., 1912, xix, No. 9.)

Abstracted by LOUIS CHARGIN, M.D.

**The Wassermann Reaction in Diseases Other than Syphilis.** J. W. MARCHILDON, p. 757.

Summarizing the results of various observers as well as his own experience, Marchildon states that although the typical reaction may occasionally be found in other diseases, for all practical purposes, the Wassermann reaction is characteristic for syphilis.

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### AMERICAN PRACTITIONER.

(Sept., 1912, xlv, No. 9.)

Abstracted by LOUIS CHARGIN, M.D.

#### Radium and Its Practical Use in Medicine. W. H. B. AIKINS and F. C. HARRISON.

The authors enumerate the skin conditions in which this remedy has been of benefit and warn against its use by the inexperienced.

### INTERNATIONAL JOURNAL OF SURGERY.

(Sept., 1912, xxv, No. 9.)

Abstracted by LOUIS CHARGIN, M.D.

#### Scarlet Red. J. H. FOBES, p. 283.

Fobes finds the variety of scarlet red, known as amido-azo-toluol, combined with oleum telesporus—8 of the former to 92 of the latter—to give better results than the other forms. With this the epithelial growth occurs in one-third the usual time. This is attributed to the more marked action of the dye and the better absorption of the vehicle.

### BUFFALO MEDICAL JOURNAL.

(Oct., 1912, lviii, No. 3.)

Abstracted by LOUIS CHARGIN, M.D.

#### The Mole—Its Relation to Malignant Diseases of the Skin; a Plea for Its Removal. J. SPANGENTHAL, p. 146.

Because of the readiness with which moles, especially of the pigmented variety, undergo malignant changes, Spangenthal strongly urges their early removal.

### AMERICAN JOURNAL OF DERMATOLOGY AND GENITO-URINARY DISEASES.

(October, 1912.)

Abstracted by LOUIS CHARGIN, M.D.

#### The Cutaneous Reaction of Syphilis; Preliminary Note. J. M. WOLFSOHN, p. 536.

Wolfsohn is favorably impressed with luetin as a diagnostic aid. He has tested it in all forms of lues and concludes as follows: The luetin reaction is specific for syphilis. Its greatest value is in the latent and tertiary stages. In some treated cases of secondary syphilis the reaction is positive. In parasymphilitics with cardiovascular manifestations the reaction may be delayed from 9 to 30 days. The reaction is helpful in the diagnosis of latent syphilis in pregnancy. The state of "Umstimmung" is well brought out in the tertiary and latent forms of syphilis.

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### JOURNAL OF THE ARKANSAS MEDICAL SOCIETY.

(Oct., 1912, ix, No. 5.)

Abstracted by LOUIS CHARGIN, M.D.

**Pathology of the Different Lesions of Syphilis.** L. R. ELLIS, p. 113.

A review of the symptomatology of syphilis.

**The Diagnostic Value of the Reaction Following the Intravenous Injection of Salvarsan, with a Few Remarks upon the Therapeutic Value of the Drug.** A. H. COOK, p. 118.

This paper has been reviewed in the October issue of THE JOURNAL.

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### KENTUCKY MEDICAL JOURNAL.

(Oct., 1912, x, No. 9.)

Abstracted by LOUIS CHARGIN, M.D.

**Pellagra.** N. W. MOORE, p. 795.

A general review. Nothing new is brought out.

### ANNALS OF SURGERY.

(Nov., 1912, lvi, No. 5.)

Abstracted by LOUIS CHARGIN, M.D.

**Salvarsan and Neo-salvarsan: Their Intravenous Injections.** E. G. BAL-LENGER and O. F. ELDER, p. 753.

The authors have administered salvarsan and neo-salvarsan 860 times. Their technique differs from the usual in that, with a specially devised stiletto, a puncture is made through the skin down to the vein. Through this the vessel is entered. Since employing this method no occasion for cutting down upon the vein has occurred. No neuro-recurrences have been observed, and they believe this to be due to repeated injections. In their experience the application of heat (4 or 5 hours for three days after treatment) by producing hyperæmia, hastens the absorption of indurated chancres. In general their results were satisfactory.

### VIRGINIA MEDICAL SEMI-MONTHLY.

(Oct. 25, 1912, xvii, No. 14.)

Abstracted by LOUIS CHARGIN, M.D.

**Technique of X-ray Treatment of Skin Diseases and Cancer.** G. A. SIMPSON, p. 348.

Emphasis is laid upon the necessity of standardizing the quantity and quality of X-ray given. With Benoist's penetrometer and Sabouraud-Noiré pastilles, combined with known voltage and amperage, we have a means of determining the condition of an X-ray tube. Depending on these, he enumerates four



schemes that can be employed in treatment: The first equals one-third of an erythema dose; the second, one-half; the third, three-quarters, and the fourth, a full erythema dose. He mentions the diseases that can be treated under each of these schemes.

**The Present Status of Arsenic Therapy in Syphilis.** A. G. BROWN, p. 531.

In studying the behavior of the Wassermann reaction and the spirochætae under mercury and under salvarsan we find in the action of these drugs a decided difference. Taking two hypothetical cases easily duplicated in practice: 1st, a case of florid syphilis in which mercury is administered. Before the lesions are entirely healed we find the spirochætae. A Wassermann test at this time will be almost certainly negative. 2nd, a similar case in which salvarsan is administered. In a week's time no spirochætae can be found. A Wassermann in all probability will be positive. We observe then, that there is a difference in the action of these drugs. It is highly probable that the results of the Wassermann test are due to the products or to the presence of the spirochætae. If this be so, we could readily understand a drug that would kill spirillæ and not change this by-product. Following out this chain of reasoning, it is the writer's belief that mercury acts as a neutralizer of syphilitic toxins. Salvarsan on the other hand is a direct spirillicide—a specific in the strictest sense. This has been proved by laboratory experiments.

Excision of chancres is strongly urged, since the dense cell proliferation characteristic of this disease cuts off the blood supply, making it impossible for "606" to reach infected areas. With an early diagnosis, in the chancre stage, and with the aid of salvarsan, syphilis can be cured, in the author's opinion.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL.

(October, 1912, lxxv, No. 4.)

Abstracted by LOUIS CHARGIN, M.D.

**The Cultural and Biological Characteristics of *Lepra Bacillus*.** A. J. SMITH and D. RIVAS, p. 265.

Based upon Duval's successful growth of the *lepra bacillus* on media plus a solution of trypsin, the authors developed trypsinized media, *i.e.*, media previously digested with trypsin. They describe the preparation of trypsinized egg medium, which they have found very satisfactory for the culture of the bacilli. On this medium, at 37° C., the growth is visible over night and luxuriant after 48 hours. The colonies appear at first as minute dew droplets and soon attain a diameter 0.5 to 1.0 mm. At this stage the growth assumes a pale yellow color, changing to orange or orange-red when old. In appearance but not in chromogenesis it now resembles the growth of the tubercle bacillus. The culture can be indefinitely subcultured.

Further study upon other media and different cultural characteristics are described, showing the behavior of the organisms upon indol, gelatin, agar, etc. Morphologically, the organism under artificial conditions appears as a non-motile, a short and thick bacillus, later assuming a coccoid form. Slender and beaded forms are also seen. Experiments as to aerobiasis shows them to be aerobic. In staining qualities they are Gram positive and acid fast. They are quite resistant to heat, requiring exposure of 10 to 15 minutes at 75 to 80° C. to be destroyed. Attempts to produce lesions have been but partially successful. In accordance with Foulerton's views they differentiate four phases in the cycle of the *lepra bacillus*. 1st, spore form; 2nd, a mycelia developed from the spore; 3rd, a non-acid fast form derived from the mycelia; 4th, an acid fast or ma-

ture bacillus, capable of giving rise to the spore. For reasons which they give they are inclined to the view that leprosy requires an intermediary host (probably an insect) for its transmission. Their observations lead them to regard leprosy as a bacteræmia.

**The Treatment of Pellagra.** I. DYER, p. 310.

The article gives the treatment "in a nutshell."

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## BOOK REVIEWS.

**The X-ray Treatment of Skin Diseases.** By DR. FRANK SCHULTZ, Privat-docent and Physician-in-Chief of the Department for Light Treatment at the Royal University Polyclinic for Skin Diseases, Berlin. Translated by JAMES BURNET, M.A., M.D., M.R.C.P. (Edin.); Fellow of the Royal Society of Medicine; Lecturer on Practical Materia Medica and Pharmacy and Therapeutics at the University of Aberdeen; Registrar to the Royal Hospital for Sick Children, Edinburgh. With 130 illustrations. *Rebman Co.*, New York. Price, \$3.00 net.

This book of 164 pages deals only with the X-ray treatment of the various dermatoses that are amenable to X-radiation. We review the book with no little interest, for Schultz has had a great deal of experience in this field.

The work is divided into subjects or parts instead of chapters. The first part (physical part) of 7 pages gives a brief resumé of the physical properties of the X-ray. Twenty-four pages are then devoted to a description of apparatus. Very little space is accorded exciting apparatus, but the various instruments for measuring the quantity and quality of the ray (so-called instruments of precision) are described in detail. It is to be regretted that the book was written before the advent of the new Holzkmnecht radiometer, because this is by far the best instrument for measuring the quantity of the ray that we have so far had.

Eighteen pages are then given to therapeutic technique. Here the author discusses the value of the various schemes for estimating the dosage and gives his own technique which does not materially differ from that of most of the German radiologists. He does not measure by direct methods each individual dose, but by employing the Sabouraud-Noiré pastille and the Wehnelt penetrometer he ascertains the time, distance, spark-gap and milliamperage necessary to administer an erythema or normal dose. Then, working with these indirect constants and without further use of the direct instruments, repeated doses may be given with the same tube. In other words, he employs the indirect method of measurement utilizing the direct method as an occasional control. This is a difficult and exacting technique and materially differs from the methods now in use by Holzkmnecht in Germany and most of the French and English radiologists.

Forty-six pages are now devoted to a very interesting dissertation on general therapeutics. Here we find that although the author believes that there is such a thing as an idiosyncrasy it is exceedingly rare, so unusual, in fact, that it does not overcome the advisability of the intensive or massive-dose method of applying the ray. He does recognize, however, the frequent occurrence of a hypersensitivity to the ray from various causes, such as age, location, type of disease, etc. The biological effect of rays of varying quality and quantity upon the normal skin and upon pathological tissue is very intelligently described. The author places considerable importance upon the specific weight of the tissue treated, for tissue of low specific weight will absorb more rays of low penetration than of high penetration and vice versa.

The rest of the book is occupied with special therapeutics which is divided into groups. Group 1 embraces the diseases that yield to  $\frac{1}{3}$  of a Sabouraud-Noiré dose of a 7.0 to 7.5 Wehnelt penetration. Here we find mentioned chronic eczema and seborrhœa, chronic suppurative acrodermatitis, chronic circumscribed and disseminated neurodermatitis, chronic warty neurodermatitis, prurigo, acne vulgaris and rosacea, tinea sycosis, lichen planus and psoriasis. In these diseases the  $\frac{1}{3}$  dose is followed in 8 days by a similar treatment and a third application is made 14 days later, the aim being to give a normal dose in divided treatments.

Group 2 comprises diseases yielding better to  $\frac{1}{2}$  normal doses administered at intervals of 14 days. Here we find warty tuberculosis, lupus vulgaris, Bazin's disease, scrofuloderma, tuberculous adenitis, leprosy and glanders.

Group 3 includes the diseases that are best treated by full doses at intervals of 4 weeks. In this group the author mentions ringworm and favus of the scalp, hyperidrosis, rhinophyma, verrucæ and malignant tumors.

It is not considered advisable to employ a filter in the treatment of dermatological disorders. Great stress is laid upon the necessity of regulating both the quality and quantity of the ray. The author fortifies his theories and assertions by photographs depicting admirable results.

Incidentally, the illustrations are not all that could be desired. The translation is too literal, many of the sentences being rather involved and sometimes it is a little difficult to clearly understand the meaning of a paragraph. The book being essentially practical is not exhaustive and contains very few references. The work is well printed and bound and is indexed. We note that the date of publication has been omitted from the title page.

This book is unquestionably the best recent work on this subject in the English language that we have seen and it should be read by everyone who is interested in radiotherapy.

G. M. M.

**Etude sur la syphilis post-conceptionnelle et l'hérédité syphilitique.** Par le DOCTEUR JEAN BOBRIE, Ancien Externe des hôpitaux de Paris. *Société Générale d'Imprimerie et d'Édition Lève*, 71, rue de Rennes, Paris, 1912; 160 pages; paper bound.

Generally speaking, antisyphilitic treatment of the mother has a marked influence on the size of the placenta. However, in exceptional cases, in untreated cases, the child may be syphilitic while the placenta is normal to a naked-eye examination. There is no relation whatsoever between the gravity of the foetal syphilis and the extent of the placental lesions.

Syphilis is always transmitted to the foetus, whatever the date of the maternal contamination, but the intensity of the infection varies according to the period of pregnancy when contamination occurs; the most fatal time is the third month (always death and maceration); later, the child is born living, but heredo-syphilitic.

No foetus receives true immunity: those who do not show active lesions are latent syphilitics. Post-conceptional syphilis is more serious for the then progressing pregnancy than for ulterior pregnancies. The foetus is already contaminated when the chancre is discovered in the mother, that is, long before the secondaries break out.

The best treatment, according to Bobrie, who echoes Bar's teachings, consists of soluble injections of mercurial salts, or mercurial pills. Gray oil and salvarsan he deems much inferior.

Syphilis can be transmitted to the foetus only through the placenta. A spermatozoön containing a spirochæta cannot fertilize an ovum. The dogma of "decapitated syphilis," and exceptions to Colles' law are inadmissible.

Mothers of syphilitic children, who themselves do not show active lesions,

are not immune to syphilis; they simply are latent syphilitics, as evidenced by the Wassermann reaction and the frequently observed pigmentation. Hereditary dystrophies are consequences of syphilis, but are not syphilitic; they confer no immunity against syphilis itself.

F. E. G.

**Recent Methods in the Diagnosis and Treatment of Syphilis (the Wassermann Serum Reaction and Ehrlich's Salvarsan).** By CARL H. BROWNING, M.D., Lecturer in Clinical Pathology, University of Glasgow; Director of the Clinical Research Laboratory, Western Infirmary, Glasgow. And IVY MCKENZIE, M.A., B.Sc., M.B., CH.B.; Director of the Western Asylums' Research Institute, Glasgow; Physician to the Out-Patient Department of the Western Infirmary, Glasgow. In collaboration with JOHN CRUICKSHANK, M.B., CH.B., and CHARLES G. A. CHISTLETT, M.B., CH.B.; WALTER GILMOUR, M.B., CH.B.; HUGH MORTON, M.B., CH.B. With an introduction by ROBERT MUIR, M.A., M.D., F.R.S., Professor of Pathology in the University of Glasgow. *Lea and Febiger*, Philadelphia and New York, 1912.

The contents of this volume are essentially a record of original work. However it is also a clear, comprehensive and exact discussion of Wassermann's reaction, both in its theory and practical application. The authors' studies have been taken up principally with the use of lecithin and cholesterin emulsions as reagents in syphilis serodiagnosis and therefore it is quite natural to see them come out strongly in favor of it.

The same painstaking thoroughness and accuracy are found in the second part, dealing with salvarsan. The authors believe in the sterilization of syphilis, in the necessity of an early and energetic treatment, carefully controlled by the cholesterin-lecithin method of serum reaction.

F. E. G.

**La sterilisation de la syphilis.** Par le DOCTEUR LEREDDE. *A. Maloine*, 25, rue de l'École-de-Médecine, Paris.

As Prof. Ehrlich says, to sterilize syphilis is to pursue in every case the real, not only the apparent, cure, and to prevent later possible accidents, often more serious than the actual manifestations.

The writer dwells first on the gravity of syphilis, on the considerable mortality for which it is responsible, and on the mistakes made by syphilologists in their choice of methods of treatment. These he reviews, and shows what an upheaval has been wrought by salvarsan and by the various control reactions. He states that we must keep up treatment as long as the blood reactions are positive. Leredde has always been an advocate of very intensive treatment and high doses, even with respect to mercury. It is only logical that he should take the same stand, as he does with salvarsan treatment.

F. E. G.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

APRIL, 1913

NO. 4

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## EDITORIAL.

### PROPRIETARY REMEDIES AND THE DERMATOLOGIST.

**T**HERE is a strong and growing movement in this country to get away from the promiscuous prescribing of proprietary preparations which have not disinterested authentication of their composition and claims. It is a powerful movement because investigations are showing the profession the abuses of medicinal therapeutics which have grown up under the unquestioned activities of commercial interests in the exploitation of drugs. It is a movement that is making for honesty and intelligence and a sense of responsibility, not only in the making and exploiting of remedies, but in their prescribing as well. A significant evidence of the effect of the movement is seen in the disappearance of the throng of "detail" men who used to frequent our offices, and even our schools and hospitals, to offer us instruction in materia medica and therapeutics.

Of what interest is this movement to dermatologists? And why should we bother our peace or convenience about it? The chief reasons are that as members of an honorable and scientific profession we should know what we give our patients; we should not inertly abandon progress in medicinal therapeutics to commercial interests; we should not complacently accept a large part of our post-graduate instruction in therapeutics from non-professional incompetents; and we should not permit to continue a condition that had disorganized and in large part wrecked the art of medicinal therapeutics in the profession at large. That is what we were doing until the Council on Pharmacy and Chemistry of the American Medical Association began in 1905 its propaganda for reform. Space does not allow a consideration here of the facts upon which all of these reasons rest, but abundant substantiation for them will

be found in Simmons' "The Commercial Domination of Therapeutics," Sollmann's "The Broader Aims of the Council on Pharmacy and Chemistry," and in that illuminating book in which the results of examinations of proprietary remedies by the Council are published, "The Propaganda for Reform in Proprietary Remedies."

The one reason which would seem self-evident is that we should know what we give our patients. And the revelations in regard to proprietary remedies have shown above all things that there is no reasonable way of being certain of their composition except upon independent examination of them, which the prescriber is himself unable to give. If there is to be any certainty, proprietary medicines, whether domestic or foreign—the foreign are as bad as ours—must have some independent supervision and be authenticated by some unbiased authoritative examination. Illustrations in the greatest number of remedies offered to the profession—not to the laity—could be given to establish this statement.

To give a few: A few years ago there was a remedy for skin diseases extensively urged upon the profession which claimed to contain 49 per cent. phenol and 51 per cent. camphor in a form differing from the ordinary liquid camphor-phenol; it actually was about 20 per cent. phenol, 3 per cent. camphor and the remainder, liquid petrolatum.

Another local application—this one from Germany and sponsored in America by a well-known firm—was a "water soluble hydrocarbon," a saponified hydrocarbon, a substance in which had been achieved the saponification of petrolatum, an achievement before impossible; disinterested examination showed it to be essentially an ammonia liniment and petrolatum. An iodide mixture with this base, offered as a substitute for tincture of iodine for local use, contains its iodine almost entirely in the form of ammonium iodide—about as satisfactory a substitute for iodine as a local application, as common salt would be for chlorine as a bleaching agent.

A very famous synthetic compound of arsenic was found to produce blindness on occasions. A substitute for it of essentially the same composition—differing only in the number of molecules of water of crystallization—but under another name, was introduced by one of the largest European firms, and caused its own cases of blindness before it was headed off.

A few years ago there was a campaign to introduce a preparation for hypodermatic use in syphilis, which was claimed to be a 1 per cent. solution of mercuric iodide, which was entirely non-irritating. It was non-irritating, but, incredible as it may seem,

examination showed it to contain *none* or, at most, only *traces* of biniodide of mercury. In this case it developed that the manufacturer actually did not know that the mercury was not there. In making the preparation the mercury was put in and the maker did not know it was eliminated in the reactions of manufacture. In short, we have protection against neither ignorance nor dishonesty, unless we provide it.

Another remedy for local use offered to dermatologists showed in one sample about 60 per cent. and in another 30 per cent. more of the most active ingredient than was found in the third sample.

One can even find a remedy advertised insistently to the profession for years which has had as its active ingredient one drug, before the passage of the Food and Drug Act, and another since; while the old active ingredient is retained in the preparation under the same name furnished in Great Britain, where there is no law to interfere. And all this without any statement being given of the difference; so that the man who prescribed this preparation would get one combination at one time and a different mixture at another time, and he would get at the same time one thing in one place and another thing in another place. It is even confusing to state the facts.

And so it goes. These are only a few of many examples that could be given. And remember we are not considering common patent medicines which deceive only the vulgar. The preparations we have in mind have all the appearances and claims of scientific accuracy; they come from firms of pretentious standing; they are offered with assurance to the intelligent part of the profession; and as a matter of fact, they have deceived many that are as good as any of us.

What are we to do under such conditions? The only thing we can do, if we are to pretend to know what we give our patients—if we are not to be content to be frank empiricists—is to use remedies whose composition and qualities have been authenticated by some competent independent body. And fortunately we have such a body, whose comprehensive reports are available in their annual publication, "New and Non-Official Remedies."

The indignant clinician may ask, are we not competent to form our own judgments of the effects of remedies? In large facts, yes; any competent man could convince himself by a few experiences that potassium iodide, for example, is useful in syphilitic gummata. But a very wise man might waste much valuable time before he demonstrated from his clinical experiences alone that a new prepa-

ration claiming to be superior to potassium iodide in syphilis was not its superior, while he could have settled it immediately had he known that the so-called new remedy consisted solely of potassium iodide in some mysterious inert menstruum.

Hippocrates said 2,400 years ago, in words which Osler is fond of quoting, that "Experience is fallacious and judgment difficult," and it is an aphorism that one may well ponder when he is about to be carried away by clinical impressions in the estimation of the value of some new therapeutic agent. This country is sown with old indorsements of proprietary remedies based upon clinical impressions that still come back to plague their authors. There is a proprietary vegetable alterative for syphilis of large sale, whose first credential is the testimonial given by one of America's greatest medical men on the basis of clinical impressions in the days of forty or fifty years ago, when "alterative" was a conception to conjure with like "radioactivity" is now. There is a lithia water for dissolving uric acid stones to whose efficacy one of America's ablest and best physicians gave written testimony. If there is anything that the history of clinical therapeutics proves, it is that experience is fallacious and judgment difficult.

WILLIAM ALLEN PUSEY.

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## THE CLASSIFICATION AND NOMENCLATURE OF ACQUIRED CUTANEOUS SYPHILIS.\*

By GEORGE HENRY FOX, M.D., New York.

MANY years ago, when I had the enthusiasm of youth and more time than practice, I undertook the study of cutaneous syphilis from nature in the Venereal Clinic of the old New York Dispensary. A finer opportunity for this study I have never seen elsewhere. Such a clinic, indeed, does not exist at the present day, for cases were then common which, owing to the modern advancement in diagnosis and treatment, are now rarely, if ever seen.

With selected patients stripped and standing before me, I endeavored to write a full and accurate description of everything I saw, and after accumulating a large volume of notes it occurred to

\* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.



me to compare these with the text-book descriptions of cutaneous syphilis. On doing so, I found many discrepancies which I attributed to my lack of experience in careful observation. I also found, greatly to my surprise, that much of what appeared on the pages of various authors was merely a repetition of what I had read in the admirable work of Bassereau (*Affections syphilitiques de la peau*, 1852). Since then, it has often seemed to me a great pity that men of wide experience in the study of disease should be so greatly hampered, as we all are, by tradition and a slavish adherence to the *dicta* of other writers. As a result of this our literature is burdened with many misstatements of fact and many erroneous views.

As to the classification of syphilitic eruptions, I will not occupy your time by discussing the literature of the subject, from Gaspard Torelli, who in 1498 described three forms each of moist and dry syphilis, to Plenck, Alibert and Willan, who laid the foundation of our present system. I will merely mention slight variations in the classification used by modern writers and what appear to me to be errors and absurdities. Please bear in mind that I am speaking only of the acquired form of syphilis.

The true syphilides are those uncomplicated with suppuration or ulceration, but in a practical classification it is necessary to include all the clinical pictures produced by the action of pyogenic microbes upon syphilitic cellular deposits in the skin and hence pustular, crustaceous and ulcerative conditions cannot be overlooked.

The simplest and most natural division of the syphilodermata is into two classes, viz., the early and the late. They might be termed with tolerable accuracy the first year eruptions and the subsequent eruptions, for, during the first year and mostly during the first half of it, we meet with disseminated eruptions of a macular, papular and pustular type, while in later years and usually after a period of rest, we have eruptions limited to a portion of the body of a nodular, squamous or gummous type.

Hutchinson makes an intermediate or post-exanthem period between the so-called secondary and tertiary stages, when the lesions are only exceptionally symmetrical, but this seems to be as unnecessary as it is confusing.

Ricord's commonly accepted division of syphilitic manifestations into three stages has never seemed to me quite satisfactory. The chancre or initial lesion no more deserves the name of primary syphilis than does the vaccination pustule the name of primary variola. But it is in the distinction between the secondary and tertiary stages that the student is most apt to be puzzled, and when superficial erup-

tions often appear twenty years or more after infection and deep deposits with ulceration may occur at a very early stage, most physicians, including ourselves, are often in doubt as to whether these lesions are to be classed as secondary or tertiary.

I fully agree with our late associate, Dr. Hyde, who claimed that Ricord's scheme was incomplete and that its distinctions were wholly artificial, and I heartily wish that the terms primary, secondary and tertiary syphilis could be expunged from our vocabulary.

As to our syphilitic nomenclature, it must be admitted that it is both careless and confusing. In looking over text-books on syphilis, a novel feature of the more recent ones is found in the great number of illustrations. In large measure these serve the purpose of an atlas accompanying the text. But these illustrations are usually labelled with no apparent system and many of them bear titles which are manifestly incorrect. I have furnished photographs to several of my text-book-writing friends and have repeatedly been surprised as well as amused to read the titles which have been given them.

A glance at these portraits is sufficient for the expert to recognize them at once as old and familiar friends, and the word syphilis is so plainly written in the characteristics of each eruption that a faulty diagnosis is scarcely possible. But if any skilled dermatologist, looking at one of these illustrations, were asked to name the form or variety of the disease which is before him he would in many, if not most cases, give a different name from that which the author has chosen for the title of the picture. This confusion in our syphilitic nomenclature is largely the result of carelessness and our failure to agree upon any definite system. I know that our individual experience must of necessity vary, and that terms which have been used by one for many years seem most appropriate and are reluctantly set aside. But the subject seems to me to be a matter of importance and well worth the consideration of this National Association. In formulating my own views of syphilitic classification and nomenclature I have no desire to unduly urge them upon others who may hold different views, but I trust that some uniformity of opinion and practice may be the result of this presentation of the subject.

The most important point to be borne in mind in the selection and use of terms applied to cutaneous syphilis is the complete separation of the early and late forms. These are clinically distinct and should not be confounded, as they often are, by the careless use of names.

One of the first things we learned in our study of dermatology was the statement that a tubercle is a solid lesion larger than a papule. Yet we learned later to call the lesions of leprosy tubercles,

even when they are much smaller than the papules of erythema multiforme. And in like manner we learned to call the lesions of early syphilis papular in spite of the fact that they may be larger than the tubercles or nodules of late syphilis. To call an eruption papulo-tubercular, as Fournier and others have done, seems to me like speaking of an early-late eruption. It promotes a confusion of ideas which ought not to exist.

In my arrangement of the clinical forms of acquired cutaneous syphilis I have omitted the vesicular and the bullous, which are described at more or less length in every text-book and which I firmly believe are practically non-existent. After forty years of clinical experience I can truly say that I have never seen a vesicular syphilide. No atlas, to my knowledge, portrays any such eruption, and no one has ever shown me a photograph of one. I will admit that if one were to sit up nights and constantly watch the transition of a papule into a pustule, a little clear serum might be detected, but that there is any clinical form of cutaneous syphilis worthy of the name of vesicular syphilide I flatly deny and, therefore, enter my protest against its continued use in dermatological literature. Nor does a well-developed bulla, so common in hereditary lues, appear in the course of acquired syphilis when the patient is not suffering from iodism. A slight elevation of the epidermis through the effusion of a sanguinolent or purulent fluid does not constitute a true bulla, and even if we did have now and then a single bullous lesion, it certainly would not justify the oft-used term of bullous syphilide.

In my "Photographic Illustrations of Cutaneous Syphilis," published over thirty years ago, I included in the late forms, the pustulo-crustaceous and the ulcerative syphilides, which I now regard as a mistake. While crusting is very common in late eruptions, a well-formed pustule is seldom if ever seen. These crusted lesions result from the softening and suppuration of nodular and gummous deposits. While deep ulcers constitute a striking feature of many late eruptions, ulceration is always secondary and frequently occurs in the early as well as the late forms of syphilis.

In offering suggestions as to the proper classification and nomenclature of cutaneous syphilis, I do not claim that they are complete or beyond criticism. Nor do I ask you to accept them if they do not accord with your own experience. But I can assure you that these suggestions are based upon what I have seen in the clinic and not upon what I have found in my library.

As already intimated, I would divide the early eruptions into three forms: the macular, papular and pustular; and the late erup-

tions into three forms: the nodular, squamous and gummous, as shown in the accompanying table.

ERUPTIONS OF ACQUIRED SYPHILIS.

FORMS.	VARIETIES.	DESCRIPTIVE ADJECTIVES.
EARLY.		
MACULAR.	Roseolar.	
	Annular.	
	Vitiligoid.	
MACULO-PAPULAR.		
PAPULAR.	Miliary . . . . .	Disseminate, corymbose, annular.
	Lenticular . . . . .	Disseminate, corymbose, hypertrophic, confluent, squamous.
	Discoid . . . . .	Moist, annular, confluent, squamous.
PAPULO-PUSTULAR.		
PUSTULAR.	Acuminate . . . . .	Crustaceous.
	Obtuse . . . . .	Crustaceous.
	Ecthymoid . . . . .	Crustaceous, rupial, ulcerative.
LATE.		
NODULAR.	Agminate . . . . .	Confluent, squamous, cicatricial.
	Circinate . . . . .	Squamous, crustaceous, ulcerative.
	Serpiginous . . . . .	Crustaceous, ulcerative, cicatricial.
SQUAMOUS.	Diffuse.	
	Circinate.	
GUMMOUS.	Diffuse . . . . .	Verrucous, crustaceous, rupial, ulcerative.
	Tuberous . . . . .	Ulcerative, cicatricial.

EARLY SYPHILIDES.

MACULAR FORM. The ordinary disseminate macular syphilide may be called the roseolar syphilide to distinguish it from the rare circinate variety. Bassereau called attention to the fact that some mac-

ules are flat and smooth, while others are slightly elevated. Taylor mentions both an ephemeral and a persistent variety, and some German writers speak of a "grossfleckige" and a "kleinfleckige" roseola. But it seems unnecessary to make subdivisions of this variety of the macular syphilide based on a few exceptional cases.

The circinate variety is commonly recognized, though of rare occurrence. It is usually seen as a relapsing eruption. Its rareness is indicated by the fact that few pictures of it are to be found. A striking case, labelled "Circinate Erythematous Syphilide," in Taylor's work, is manifestly a raised circinate papular eruption.

The so-called pigmentary syphilide is, strictly speaking, not a syphilide at all. Indeed, it is neither pigmentary nor syphilitic. The dark reticulation which some have described as the pigmentary syphilide is a secondary feature of this affection. The whitish macules are first developed and constitute the disease, as they do in ordinary vitiligo, and, therefore, the term vitiligoid or leucodermatous syphilide is more appropriate than the term pigmentary syphilide.

To the objection that this leucoderma is not a manifestation of syphilis, but like a syphilitic scar, a mere indication of preëxistent syphilis, it may be urged that it is so often seen in syphilitic subjects, developing on the site of former syphilitic lesions, that it seems justifiable to class it with the syphilides even if it be not one of them.

The cases in which congested macules are slowly undergoing a transformation into papules and those, more numerous, in which macules and papules coëxist, may be considered as a hybrid form and called, as is customary, the maculo papular syphilide.

**PAPULAR FORM.** Among the syphilides the papular form presents the greatest variation in clinical appearance and in the terms commonly used to express this variation a vast amount of confusion prevails. The same eruption pictured in various text-books is variously named, and the names in common use do not always convey a distinct picture to the mind.

There are three varieties of the papular form of syphilis which ought to be recognized by all, viz., the miliary, the lenticular, and the discoid. The lesions seen in these varieties are quite unlike each other and impart to them a distinctive character. Whether the lesions are disseminated or grouped, larger or smaller, rounded or flattened, is of comparatively little importance, and as both of these conditions often exist in the same eruption, such features alone do not serve as well as the shape of the lesion for a basis of classification.

The miliary, or follicular syphilide, presents a quite distinct and characteristic appearance, which I need not describe in detail. The

lesions are conical and approximate the size of millet seeds, from whence comes the name. Sometimes the lesions are so numerous that the skin of the trunk and extremities is studded with small conical elevations, but in most cases the eruption appears in a corymbose or clustered form. The central "bull's-eye," which is often, though not always, present in the clusters of the corymbose lenticular papular syphilide, is rarely noted in the miliary groups.

The lenticular papule, a solid, fleshy lump of varying size, but usually about the size of a lentil, is the most common lesion of early syphilis. To call an eruption of such lesions the small, flat papular syphilide, as is often done, is certainly incorrect, since these lesions are very apt to be rounded and sometimes even hemispherical. These papules are usually disseminate, but often occur in greater number in certain localities. Sometimes they appear in groups, and often with a larger papule in the centre, and constitute a corymbose or corymbiform eruption. This arrangement of lesions in a group or circle with a central "bull's-eye" I have long since pointed out as often occurring in mycosis fungoides and other dermatoses.

Occasionally, the papular syphilide, especially upon the face, presents smooth, rounded tumors, much larger than the ordinary syphilitic papules, and to this eruption the descriptive adjective "hypertrophic" has been justly applied.

To the third variety I have applied the term "discoid papular syphilide" in place of "large flat" papular syphilide, as it is shorter, more descriptive, and not so likely to be applied, as is the latter term, to the lenticular type of papule. Lenticular lesions may be quite large, even hypertrophic, and they always flatten as they disappear and, therefore, the term "large flat papular syphilide" is apt to appear vague and confusing. In many text-books we find illustrations of the fading lenticular syphilide bearing this erroneous title.

This discoid lesion is the initial stage of the condyloma latum, the annular and the squamous papular lesions and most of the confluent patches seen upon the face. It is distinctly nummular in character and is most frequently seen upon the face and neck. In certain regions, as beneath the female breasts, in the groins and around the anus, these discoid lesions acquire a moist surface and constitute the moist papular syphilide (*condylomata lata*). Even upon the face or other normally dry surfaces, a discoid lesion with a moist pellicle is occasionally seen which bears a striking resemblance to a mucus patch. Discoid lesions are prone to become scaly, and upon the trunk and flexor aspects of the extremities quite thick scales sometimes form, as in psoriasis, and constitute a squamous papular syphilide.

This variety must be carefully separated from the smaller and scaling lenticular papules, as also from the true squamous syphilide of the palms and soles, which occurs only in late syphilis. Discoid lesions of the face are often slightly crusted and confluent and strongly resemble patches of seborrhœa or eczema.

When the scale or moist pellicle or smooth redness disappears from the centre of these discoid lesions, we have left a raised peripheral ring, which may be termed the annular papular syphilide. In rare instances, and especially among negroes, these rings may be concentric, as sometimes occurs in ringworm, and by confluence they may form gyrate and other picturesque patterns.

When papular lesions of either the lenticular or the miliary type tend to slight suppuration, as they frequently do in weak and dissipated subjects, or when papules and pustules coëxist, we have another hybrid eruption, which is on the border-line between the papular and the pustular forms of syphilis and is usually termed the papulo-pustular syphilide.

**PUSTULAR FORM.** While the papulo-pustular type of syphilis is of quite frequent occurrence, the typical pustular syphilide, in which all the lesions suppurate, is comparatively rare. In naming its varieties, one may feel forced by tradition to follow the unfortunate custom of employing names of some non-syphilitic eruptions. To these varieties the terms acneiform, varioliform and ecthymaform are usually applied, while Neumann and others have described eczemaform and impetigoform eruptions. This is a shade better than using names like *acne syphilitica* and *ecthyma syphiliticum*, but I much prefer the terms acuminate, obtuse and discoid to indicate the character of the pustules.

These three varieties correspond to the miliary, lenticular and discoid varieties of the papular syphilide. The acuminate pustular syphilide is the small conical or follicular eruption. The obtuse variety is composed of larger rounded pustules and bears a sufficient resemblance to variola to be sometimes mistaken for it.

There is no varicelliform eruption outside of the books, although a few pustular lesions sometimes become umbilicated, as they do in both variola and varicella. In most cases of the pustular syphilide there are no well-developed pustules, as in acne or variola, but, instead, a softening and suppuration of the papular lesions. Indeed, this syphilide is very often a purulent rather than a true pustular eruption.

The discoid or ecthymaform variety needs no comment.

In the drying of pustules another distinct clinical picture is often

produced, and we have a crusted pustular syphilide. The crusts in some cases are conical or like a small snail shell and some have termed them rupial, but they do not constitute the classical rupia or oyster-shell crust met with occasionally in late syphilis.

Through persistent suppuration or violent removal of the crusts by friction of the clothing, ulcers of various size are liable to ensue, and we have then an ulcerative pustular syphilide. When suppuration is most active at the periphery of the crusted lesion, we may have a circinate ulcerative, discoid pustular syphilide.

#### LATE SYPHILIDES.

We now come to those syphilides which usually occur from two to twenty or more years after infection, and which should be carefully distinguished in our nomenclature from the early or first-year syphilides. Their clinical features are quite distinctive and so should be the names which we apply to them. All names which do not clearly indicate that the eruption belongs to the early or to the late stage of cutaneous syphilis should be discarded.

As in early syphilis, we have three forms of eruption, viz., the macular, the papular, and the pustular, so in a later period of the disease we also have three forms, viz., the nodular, the squamous, and the gummous. While I am perfectly aware that this scheme fails to include all the forms of syphilis described in the text-books, I venture to assert with confidence that it includes all the cases you will ever meet with in the clinic.

**NODULAR FORM.** The long-used term "tubercular syphilide" I have often found to be a stumbling-block to the student, who naturally associates it with the tubercle bacillus, in which he has become interested in the medical clinic. I have also found that many physicians have the idea that this syphilide is in some way tuberculous as well as tubercular. The name *nodose*, or *nodular*, I have used for many years in teaching, and after consultation with various colleagues I am pleased to find that most of them approve of the change.

**SQUAMOUS FORM.** The squamous syphilide, which should be carefully kept separate from the scaling papular syphilide, as it is widely separated from it in point of time, is clinically a distinct form of syphilis, and usually appears upon the palm and sole. I know that some will claim that it is in fact a nodular eruption, but owing to the thickness of the epidermis upon the palms and soles the nodules are not apparent. But please bear in mind that this proposed scheme is clinical and not pathological.



**GUMMOUS FORM.** The word gummous is shorter than gummatus, quite as correct and expressive, and is already used by German writers. Why should we not use it?

The word *rupia* carries with it a clinical picture of a peculiar crust. We have rupial lesions, but no rupial syphilide. Having excluded the bullous syphilide with which *rupia* has usually been associated in the text-books, the question arises in what form of syphilis does *rupia* occur. In the early pustular form we sometimes see small conical limpet or snail-shell crusts which are of a rupial character, as well as the larger oyster-shell crusts. But the latter are apt to be seen in their highest degree of development in late syphilis. Beneath such a lesion I have assumed that there is a superficial, diffuse, gummous deposit and, therefore, have used the term rupial as a descriptive adjective for this peculiar crusting, which may occur in both the pustular and the gummous forms of syphilis.

In the diagnosis of syphilis the main point is to recognize the disease. The particular form or variety of eruption is of far less importance, but as this subsidiary diagnosis has often an important bearing upon the stage of the disease, upon the appropriate treatment and upon the prognosis, it possesses a value which is certainly worthy of recognition. Since we are all forced to classify in some manner and to name the various forms of cutaneous syphilis, is it not possible for us, as members of this National Association, to agree upon the best practical classification and to be in greater accord with one another in the use of names? To further such a desirable end is the aim of this paper.

In describing the various syphilides most text-book writers, even those with a large experience, are sadly hampered by what their predecessors have written. Their respect for authority and tradition is highly commendable, but it surely is unfortunate when it leads them to a parrot-like repetition of terms and to the description of eruptions which they themselves have never seen.

When we consider the common forms of syphilis with which we are all so familiar and leave out of question the rare, unique and exceptional cases seen scarcely once in a lifetime, does it not seem possible and practicable for the members of this Association to agree upon the use of certain terms, not only for our own convenience but for the sake of our professional brethren who look to us for guidance, and particularly that large class in which we are all interested—the future students of dermatology?

## EXPLANATION OF PLATES.

FIG. 1.—This patient had a chancre in July, 1893, followed by a roseolar macular and miliary papular eruption in August and September. The annular macular eruption appeared in November and was photographed in December, about five months after date of initial lesion.

FIG. 2.—This patient, whose husband had an eruption in August, 1892, gave birth to a child in March, 1893, who showed evidence of infection in August. The mother presented an eruption of macules and discoid papules in May and was photographed in July. Some of these discoid papules had a moist surface, almost like that of a mucous patch. The centre dried into a very thin, dark crust, leaving an elevated ring at the periphery. Two lesions at the margin of the umbilicus presented the appearance of, and were, in fact, condylomata lata.

FIG. 3.—This photograph shows the tendency of the discoid papule to heal in the centre like ringworm and present an annular form, an eruption more frequently seen in negro syphilis.

FIG. 4.—Showing the thick, psoriasiform scale sometimes seen upon the discoid papule and quite unlike the slight scaling presented by some lenticular papules in their disappearing stage.

FIG. 5.—Showing the lenticular papules of an unusual size, very much larger indeed than the "tubercle" or nodule of late syphilis. These lesions often soften and suppurate, and may even become ulcerative and crustaceous. No distinct pustule is ever formed, yet, in accordance with tradition, it is commonly called a papulo-pustular syphilide.

## DISCUSSION.

DR. PUSEY said he thought Dr. Fox had done well to call our attention to these inconsistencies in the nomenclature of syphilis and he was favorably impressed with the suggestions for improvement. Particularly he approved of the division of syphilis into early and late. But he would like to defend the much-abused nomenclature of dermatology in general and syphilis in particular. Absurdities in nomenclature are not confined to syphilis and skin diseases. Language is always in the making; names are given things upon the basis of associations that may become absurd to-morrow and usage so establishes them that to undertake to change them would be fighting windmills. For example, America was named after its discoverer who did not discover it, our Indian is no Indian at all, sunburn is not a burn; and similar absurdities of language could be found without number; and yet we do not try to change them. We forget their origin and only remember their present application. The title of Dr. Hartzell's paper might be taken as another example. The title erythema ab inge was criticized on the ground that the condition is due to heat and not to fire and should, therefore, be called erythema ab calore. But, as Dr. Hartzell very properly pointed out, he did not name it; if he had called the condition erythema ab calore most of us would have gradually recovered from our surprise and then taken our pleasant turns in denouncing him as a purist. I call attention to this aspect of the subject, not because I do not favor Dr. Fox's suggestions, for I highly approve of them, but because I want to champion the cause of the hapless victims of every one's wrath—nomenclature.

DR. HARTZELL said that while nothing was ever made that was easier to criticise than a system of classification, he thought Dr. Fox deserved the thanks of the Association for his paper. Still, it contained some points that were open to argument. Because a certain lesion was extremely rare, it did not prove that it

PLATE VII.—To Illustrate Article on "Classification and Nomenclature of  
Acquired Cutaneous Syphilis," by Dr. GEORGE HENRY FOX.



Fig. 1.  
Annular macular syphilide.



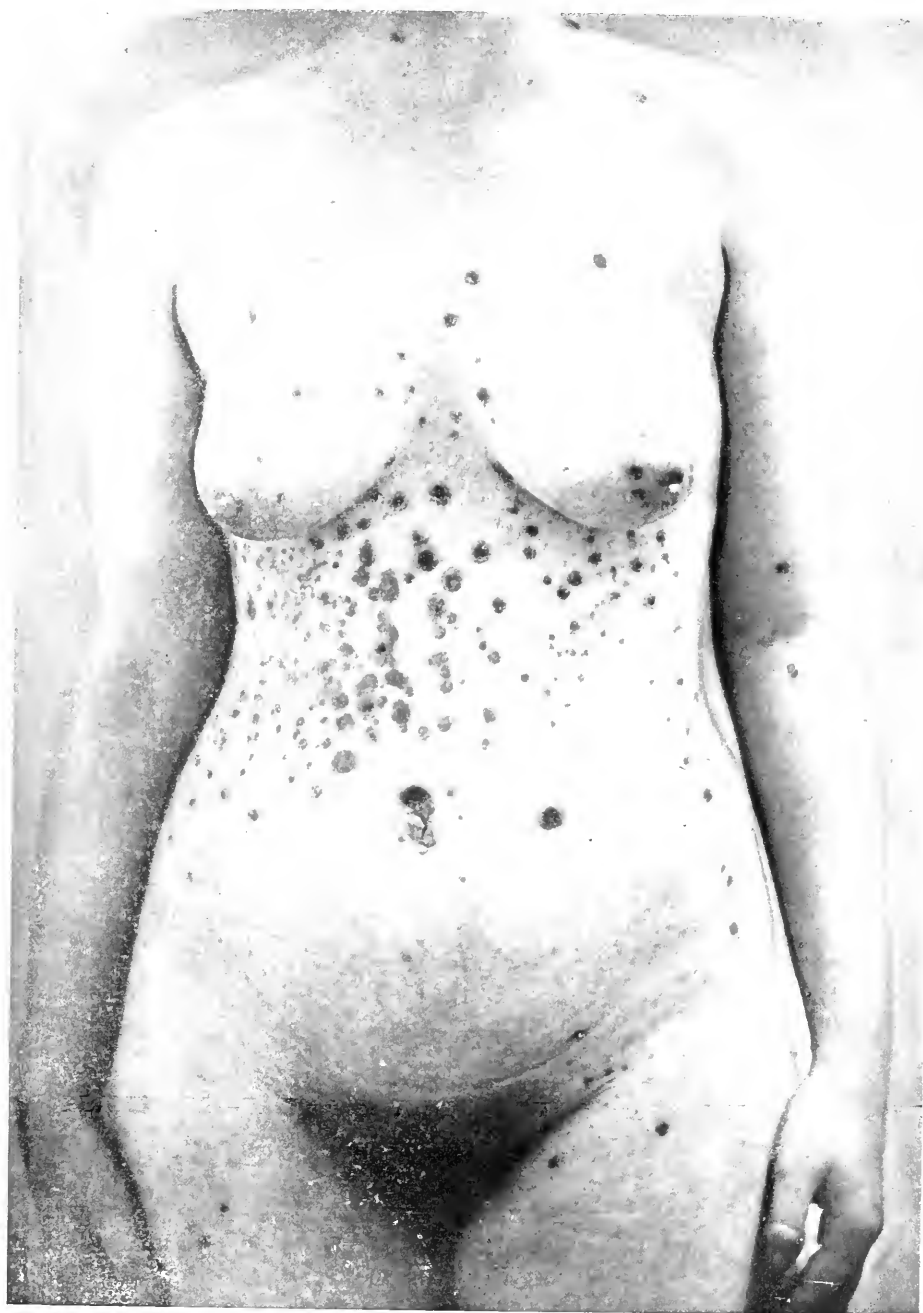


Fig. 2.

Discoid papular syphilide (with moist and annular lesions).



PLATE IX.—To Illustrate Article on "Classification and Nomenclature of  
Acquired Cutaneous Syphilis," by DR. GEORGE HENRY FOX.



Fig. 3.  
Discoid papular syphilide (annular type).



Fig. 4.  
Discoid papular syphilide (squamous type).







Fig. 5.

Papulo-pustular syphilide (with hypertrophic lesions).



did not exist, and this was true of the vesicular syphiloderm. Therefore, he thought it ought to be mentioned, rare as it was. The system outlined by Dr. Fox possessed many features worthy of commendation and adoption. He quite agreed with the suggestion that the term nodular syphilide should be substituted for the so-called tubercular lesion.

Dr. ZEISLER said he had found Dr. Fox's paper to contain many points with which he agreed and which he thought were well worth emphasizing. He was inclined to agree with Dr. Fox that the term vesicular syphilide might well be discarded. In his own experience of thirty years he had never seen a vesicular syphilide, and while vesicular lesions could doubtless occur in a syphilitic subject, they were probably simply a coincidence. He was also in accord with the reader of the paper that the term discoid could appropriately be substituted for the large papular syphilide, and that the term nodular syphilide was preferable to tubercular.

Dr. WINFIELD said he was glad that Dr. Fox, in his paper, had brought up the question of the tubercular and nodular syphilide, as the term tubercular syphilide gave rise to a great deal of confusion in the mind of the student, who naturally associated the name with tuberculosis of the skin. In teaching this subject, Dr. Winfield said, he mentioned the name to his students and then told them to forget it as soon as possible.

Referring to the so-called vesicular syphilide, the speaker said that he had never seen it. He had seen pustules, the contents of which might have been vesicular in the beginning.

Dr. GRINDON said he had been waiting for some years for a member of the Association, who could speak with authority, to write just this kind of a paper. There was no doubt that the scheme outlined by Dr. Fox was in the direction of the simplification of this subject and would tend to do away with old terms for lesions that were really non-existent.

Referring to the vesicular syphilide, Dr. Grindon said the author of the paper was probably speaking of acquired syphilis, as there did exist a true vesicular syphilide in congenital syphilis. There was probably no bullous syphilide in acquired syphilis, though he had seen several cases of so-called bullous syphilide in acquired syphilis presented at medical societies, which upon investigation proved to be herpes iris.

The speaker said he was sorry he could not agree with Dr. Fox about the pigmentary syphilide. This was really a leucodermatous condition, which, as Dr. Taylor had insisted years ago, existed entirely independent of any precursory eruption.

Dr. Grindon said he was glad that Dr. Fox had emphasized the radical difference between the early and late squamous syphilide. As to rupia, of course there was no such eruption: this was simply a name given to a form of crusting which he had frequently seen in the very early pustular syphilide rather than in the late type.

Dr. KNOWLES said that, with Dr. Hartzell, he had seen one case of unquestioned acquired syphilis in an adult with a vesicular syphilide.

Dr. G. H. Fox said that while, as Dr. Pusey had intimated, it might be difficult to discard terms that had been in use for a long time, still, we might begin by teaching our students to substitute the term nodular for tubercular and gradually improve our dermatological nomenclature. The speaker also expressed the hope that the term discoid would be more generally adopted in reference to the large papular syphilide, as it gave a good description of that lesion.

GRANULOMA INGUINALE TROPICUM: REPORT OF  
THREE CASES.\*

By JOSEPH GRINDON, M.D., St. Louis.

(From the Department of Dermatology, Washington University, St. Louis.)

IN 1896 Conyers and Daniels<sup>1</sup> reported a condition observed by them in British Guiana under the title *granuloma inguinale tropicum*. Daniels had seen the same affection in Fiji. Their observations were given quite fully by Galloway<sup>2</sup> a year later with added observations, and the name "ulcerating granuloma of the pudendum." Crocker<sup>3</sup> gives a resumé with a description and picture of the same or a very similar condition observed by him in a white man. He includes a bibliography. R. W. Taylor saw the disease in New York. Articles and references are given by Stelwagon,<sup>4</sup> Pusey<sup>5</sup> and others in this country and a number of writers abroad.

Some confusion of this condition with *frambesia* may at times have arisen from Nicholls' application of the term "*granuloma tropicum*" to the latter disease. The affection described in this paper nevertheless constitutes a sharply defined though rare clinical condition, no matter how uncertain its ætiology may yet remain. I may here quote Manson's<sup>6</sup> description, not only for the graphic picture it presents, but as being authoritative. He gives a cut closely resembling the cases reported in this communication.

"The disease commences in the great majority of cases somewhere on the genitals or groins as an insignificant, circumscribed, nodular thickening and elevation of the skin. The affected area, being covered with a very delicate, pinkish, easily-rubbed-off epithelium, excoriates readily, exposing a surface prone to bleed and break down, although rarely ulcerating deeply. The disease advances in two ways: by continuous eccentric peripheral extension, and by autoinfection of an apposing surface. In its extension it exhibits a predilection for warm and moist surfaces, particularly the fold between the scrotum and thighs, the labia and the flexures of the thighs. Its extension is very slow, years elapsing before it covers a large area. Concurrently with peripheral extension a dense, contracting, uneven, readily-breaking-down scar forms on the surface travelled over by the coarsely or finely nodulated, active new growth, which constitutes the peripheral part of the diseased area. Occasionally, islands of active disease spring up in this scar tissue; but it is at the margin of the implicated patch that the special features of the affection are best observed. In a case of some standing there is found a large area of white or irregularly pigmented, perhaps excoriated, unsound,

\* Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

contracted, folded and dense cicatrix, surrounded by a narrow, serpiginous, irregular border of nodulated, somewhat raised, red, glazed, delicately skinned or pinkish, superficially ulcerated or cracked new growth. . . . In the male, it may spread over the penis, involve the glans, scrotum and upper part of the thighs. In either sex it may spread in the course of years to the pubes, over the perineum and as far back as the region of the coccyx. . . . In this condition the disease, slowly extending, continues for years, giving rise to inconvenience and perhaps seriously implicating the urethra, vagina, or anus, but not otherwise materially impairing the health."

In the cases herein detailed, lesions on free surfaces such as the pubes and the groins developed into massive keloid-like, raised areas, including or at points bordered by patches of ulceration, with a few similar outlying islands of disease, while in the folds between the scrotum and thigh there existed a linear ulceration, much like a deep cut along the crest of a long, low ridge.

Added interest was recently lent to this disease by Carter's<sup>7</sup> description of an organism found by him in cases seen in British India. Six cases afforded the same findings. He says: "In certain areas lie masses of very large mononuclear cells, their cytoplasm distended with from 15 to 20 bean-shaped bodies, resembling the gregariniform stage of a herpetomonas or crithidium." The parasite is said to be very like that found in oriental sore, but slightly smaller and is believed by Carter to belong to the same class. He, therefore, considers the disease to be a localized protozoal infection.

The investigations detailed below failed to confirm these findings, which need occasion no surprise in view of the geographical remoteness of the cases and the difficulty of establishing the identity of the conditions studied. Carter unfortunately gives no clinical description of his cases. The difficulty and doubt in which we are thus left was felt by C. W. Daniels,<sup>8</sup> who, after stating that Donovan, of Madras, had already called attention to these bodies in ulcerating granuloma of the pudenda, his descriptions and drawings being reproduced in Manson's Tropical Diseases (4th ed., 1907), says: "It is of considerable importance that a careful search for Donovan's parasites should be made in places in South America and the West Indies where the disease (misnamed ulcerating granuloma) is prevalent, as proof is required of the identity of the diseases so described in different parts of the world. In preserved material from British Guiana I have not been able to find these bodies."

Nor were spirochætae, as reported by Wise and MacLennan (quoted by Stelwagon, loc. cit.), found in our case. That spiro-

chætæ of various species may occasionally be found in great numbers as saprophytes in such tissue, when they have once obtained an entrance into the organism, is readily understandable, as is the fact that they need then bear no more causal relation to the process than they do to malignant tumors in which they so easily propagate under similar circumstances. It is interesting here to note that Rost,<sup>9</sup> in view of the fact that granuloma inguinale tropicum is believed by some to be due to spirochætæ, although himself considering this highly improbable, made a trial of salvarsan in a case of this disease in a male negro of Trinidad. No change was noted in the lesion at the end of two months.

It has been my fortune to observe three case of this disease in St. Louis in the last eight years, all in adult male negroes and all strikingly similar in clinical details.

#### CASE REPORTS.

CASE 1. A negro male, aged sixty, presented himself in 1904 at the O'Fallon Dispensary, Washington University, in the service of Dr. Schlueter. The patient, a respectable-looking man, gave no venereal history, unless what follows be regarded as such, and presented no evidences of syphilis. His general health was fair. He had formerly lived in New Orleans. The lesions had commenced some ten or more years before. A long-standing sore at the prepuce was surrounded with indurated thickening, which extended around the organ. There were points of ulceration about the pubes, attended by the same keloid-like scar formation. Here and there were open ulcerating areas and scattered miliary abscesses. The mass formed a bulky, flattish tumor across the pubes, with similar detached portions extending into the groins. To the touch it was everywhere hard and firm. An interrupted band of similar cicatricial formation extended part of the way down the left side of the sheath of the penis and drew the organ somewhat to that side. (Fig. 1.) A band of diseased tissue extended down each cruro-scrotal sulcus, nearly meeting at the perineum (Fig. 2). These bands consisted of linear ulcers about an inch wide when stretched open, but normally longitudinally folded so that the two halves were coaptated. The borders were sharply cut inside, but outwardly presented a crest or ridge sloping toward the healthy surface. The surfaces of the ulcers were red and papillomatous. The subjective symptoms were not severe. The condition had from the first been slowly progressive and showed no tendency toward recovery. The photographs from which Figs. 1 and 2 are taken were exhibited at the 1906 meeting of the American Dermatological Association and are reproduced in Pusey's Treatise.

CASE 2. Negro male, aged about thirty, seen by me in consultation in 1909 at the St. Louis City Hospital. He presented in the left groin a mass of cicatricial induration with scattered ulcers and small superficial abscesses. A band of scar tissue extending down the left side of the penis deflected the organ strongly to that side. Band-like areas of ulceration extended down each side of the scrotum to the perineum. These, when not stretched open, presented the appearance of low ridges deeply fissured along their summits throughout their length, the fissure being represented by the ulcer. Figures 1 and 2, with slight modifications of detail, might answer for Case 2, so alike were they.

CASE 3. Negro male, aged forty-two, referred to the Dermatological Clinic at the Washington University Hospital, March, 1911, by Dr. H. McC. Johnson. Dr.

Johnson gave me a good verbal description of the case before I saw it and so striking were its characters and so unlike any other condition with which I am acquainted, that I felt all but assured of the diagnosis in advance.

The patient was of large and strong build, with a general appearance of fair health, although he had an albuminuria and a painful swelling of the left pectoral region with enlargement of the axillary glands on the same side. Below Poupert's ligament (Figs. 3 and 4), on the right side, extending from the root of the penis to the anterior inferior iliac spine, was a broad band of hypertrophied cicatricial tissue, bounded in part above by a narrow line of ulceration. Ulcerating points were scattered as well over the scar surface, while its inferior limit presented a line of deep ulceration with papillomatous borders forming a double ridge. This ulcerated cleft was continued along the bottom of the fold around the scrotum to the anus. A patch of ulceration presenting a raised border was beginning to creep down the same side of the penis. On the top of the glans was a deep, indolent ulcer something over a centimeter across. The condition had existed for many years and had been virtually stationary for months. There was no history of syphilis. The Wassermann reaction was negative.

**HISTOPATHOLOGY.**—A piece of tissue excised from the border of the patch in the groin was given to Dr. Eugene L. Opie, of the Department of Pathology, who kindly furnished the following report:

"On the surface of the section is squamous epithelium which over a small area is defective, leaving an ulcerated surface. The connective tissue below the epithelium is loose and oedematous and infiltrated with an immense number of cells. These cells are in large part polynuclear leucocytes, but lymphoid cells and plasma cells are present in considerable numbers. In places, fibrin forms a fine network. In a few spots, polynuclear leucocytes have accumulated in great numbers and fixed cells have undergone necrosis. In these areas suppuration has occurred. In places, particularly numerous below the epithelium, hæmorrhage is conspicuous. In some places, most marked where suppuration is in process, there are numerous necrotic cells which take a diffuse blue stain with hæmatoxylin. The nuclei of these cells are scarcely definable, but appear to be the nuclei of polynuclear leucocytes. Where ulceration has occurred, the surface is covered by a bright scab, in large part changed blood. The tissue below contains the cellular elements mentioned before, plasma cells being particularly numerous. Diagnosis: acute and chronic inflammation."

Figure 5 shows the architecture of the lesion, hyperplasia and downgrowth of the rete being noticeable. Figure 6 shows the cellular characters. No trace of the peculiar bodies described by Carter were seen.

Other pieces of tissue were examined by Dr. Tiedemann, of the Department of Pathology, with the same findings. Sections stained by the Levaditi method showed no spirochæte, nor did smears show anything of note.

**CULTURAL EXPERIMENTS.**—Cultures on agar, serum and broth developed only common saprophytic forms and pus staphylococci.

**ANIMAL INOCULATIONS.**—Three animals were inoculated by Dr. Tiedemann as follows: An emulsion of a fresh piece of ground tissue was injected into the vein of a rabbit's ear; result, negative. Another portion of the emulsion was injected into the peritoneal cavity of a guinea-pig. There was no result observable, but several weeks later the pig died from some unknown cause. The post-mortem findings were absolutely negative. A piece of fresh tissue was pushed into a pocket under the skin of the back of a guinea-pig. This sloughed out after four days, leaving an ulcer which soon healed, without unusual phenomena, nor did later symptoms develop.

It is thus seen that none but negative results were obtained in the investigation of this case, which would tend to support

Crocker's opinion that the disease is due to the presence of the ordinary pus cocci. There are two considerations, however, strongly opposed to this view; on the one hand the rarity of the condition, and on the other hand the absolute conformity to type of these three cases, and of other reported cases as far as one can judge from the descriptions and pictures furnished. For these reasons I believe, in spite of our failure to find a specific cause, that such a cause exists and will yet be discovered. In none of these cases was there a history of contagion.

The following conclusions seem legitimate:

1. The disease is a rare one in this country.
2. It is characterized by a striking conformity to type.
3. The adjective *tropicum*, as a part of the title of this disease, is not wholly justified.
4. The disease in this country is not mainly one of women, as Manson says is the case in the tropics.
5. The negro race is especially liable.
6. The question of contagion must remain open for the present.
7. The peculiar bodies described by Donovan and Carter are not constantly present in this disease.
8. *Spirochætæ* are not constantly present.

#### REFERENCES.

1. *Brit. Guiana Med Ann.*, 1896, quoted by Crocker.
2. *Brit. Jour. Dermat.*, 1897, p. 133.
3. *Diseases of the Skin*, 3rd ed., p. 1076.
4. *Diseases of the Skin*, 6th ed., p. 836.
5. *Principles and Practice of Dermatology*, p. 490.
6. *Tropical Diseases*, 3rd ed., p. 536.
7. *Lancet*, 1910, xi, p. 1128.
8. *Ibid.*, p. 1648.
9. *München. med. Wochenschr.*, 1911, lviii, p. 1136.

#### DISCUSSION.

DR. RAVOGLI said he had had the opportunity of seeing several of these cases, which he had reported under the name of proliferating syphilides and phagedænic syphilitic ulcers. In all of his cases, the subjects of these ulcers had been syphilitic for many years, the Wassermann reaction was strongly positive and he had rested his diagnosis on these factors.



PLATE XI.—To Illustrate Article on "Granuloma Inguinale Tropicum,"  
by DR. JOSEPH GRINXON.



Fig. 1. Case 1.



Fig. 2. Case 1.



PLATE XII.—To Illustrate Article on "Granuloma Inguinale Tropicum,"  
by DR. JOSEPH GRINEXON.



Fig. 4, Case 3.



Fig. 3, Case 3.



PLATE XIII.—To Illustrate Article on "Granuloma Inguinale Tropicum,"  
by DR. JOSEPH GRINCON.

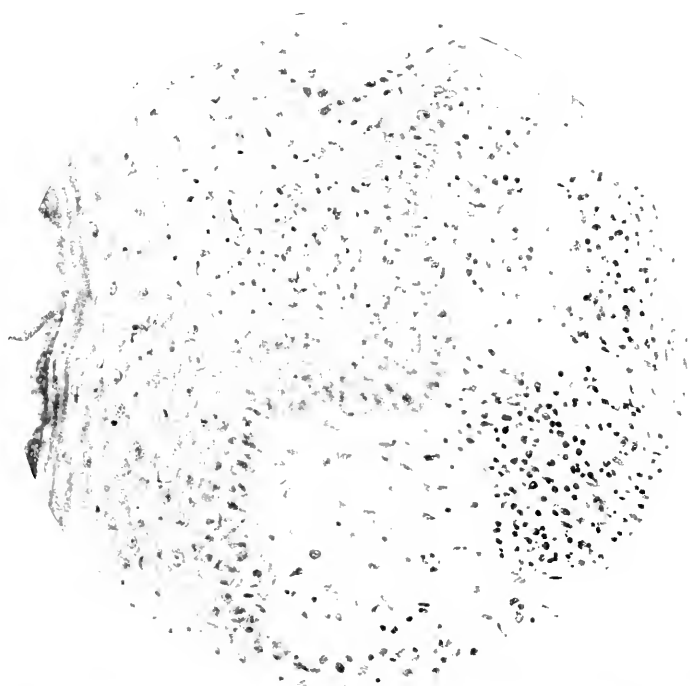


Fig. 6. Case 3.  
Showing the cellular characters.



Fig. 5. Case 3.  
Showing architecture of the lesion.



# REMARKS ON THE SCAPHOID SCAPULA AND ITS SYNDROME: THE CONNECTION WITH SYPHILIS IN THE ASCENDANTS.\*

By WILLIAM W. GRAVES, M.D., St. Louis.

IT is with much pleasure that I have responded to the kind invitation of your local Committee to prepare an exhibit illustrating my studies of the scaphoid scapula and to demonstrate a few cases showing this anomaly. In the exhibit I have endeavored to illustrate the scaphoid scapula in its anatomical, hereditary and clinical bearings. In connection with the demonstration I would especially call attention to an abstract of a study by Dr. A. Myerson wherein the tenth child of a family showing scaphoid scapulæ with other gross anomalies succumbed to diffuse manifestations of congenital syphilis. Before demonstrating the cases, permit me to give a brief resumé of some of my observations and to point out certain methods of study which are essential in determining the clinical significance of the scaphoid scapula.

My studies of 350 skeletal scapulæ have shown that approximately 41 per cent. of this number is of the scaphoid type and that this type differs from the average type of scapula of the human race in six anatomical particulars, chief among which is that the vertebral border below the scapular spine is more or less concave. I have, therefore, called this type of scapula *scaphoid*. My studies of a number of embryos in all stages of development have shown among other things that the typical scaphoid scapula is found as early as the eighth week in embryo life.

My statistical studies have shown: (1) it occurs in all branches of society; (2) it is present in a relatively large per cent. of our population; (3) it occurs with great frequency among the young, but is relatively infrequent among the old; (4) it occurs with great frequency among backward individuals, epileptics, neurotics, the insane and the so-called incorrigible and criminal classes; (5) when it is found to a rather marked degree it is almost invariably associated with other anomalies in development which may be anatomical, physiological, psychic, psycho-

\*Read by invitation before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

neurotic or a combination of these; (6) the natural habitat of the scaphoid scapula is in the deviate.

My clinical studies have shown that many individuals in whom the scaphoid scapula is found are undersized, have sluggish attitudes, defective musculature and a lowered general resistance, and that such individuals often show definite physical signs and conditions which I have called the scaphoid scapula syndrome. This syndrome consists in: (1) the deviating characteristics of the whole individual; (2) a degree of vascular changes out of all proportion to the years of the individual; (3) an abnormal degree of lymph-gland palpability; (4) adenoids during the early periods of life; (5) simple enlargement of the thyroid gland; (6) nocturnal incontinence, especially during childhood; (7) either the presence or history of catarrhal affections beginning in early infancy and often persisting for years.

My comparative clinical studies have shown that the scaphoid scapula occurs in all the progeny of some parents who have average scapulæ; that, as a rule, it occurs in all the progeny of parents where one or both have scaphoid scapulæ and that it is transmitted from parent to child, and so on through several generations (*see* Appendix). From my anatomical, clinical and comparative clinical studies I have arrived at the general conclusions: (a) that no assumed circumstance in the life of the individual after his birth could give him the scaphoid scapula; (b) that its occurrence can only be accounted for by the assumption of some disturbing factor, some abnormal circumstance in the parents or in the more remote ascendants.

My comparative clinical studies have further shown that syphilis in the ascendants is one cause of the scaphoid scapula and its syndrome. I have shown this connection in several ways, but the most conclusive proof of it has been found in my studies of the progeny of known-to-be syphilitic parents and of the progeny of parents who are, undoubtedly, free from syphilis. By comparative clinical studies I mean that each member of a generation has been studied clinically; that the parents have been studied in a similar manner and, when possible, both parents and progeny have been subjected to every known laboratory test which might furnish additional data and, finally, each member of a generation has been compared one with the other and each in turn with his parents and, when possible, with his more remote ascendants. These studies have demonstrated the truth of what is universally expected of the progeny of healthy parents; namely, that healthy



parents, as a rule, beget a healthy progeny and a progeny which compares favorably with the parents in physical and mental endowments.

I have been able to show in these studies that when syphilis exists in (*a*) parents having average scapulæ, (*b*) parents one of whom has scaphoid scapulæ, (*c*) parents both of whom have scaphoid scapulæ, the progeny rarely compare favorably with the parents; that, as a rule, the younger members of a generation show less deviation, and the scaphoid scapula and its syndrome in a less degree than do the older; that the scaphoid scapula and its syndrome are present, as a rule, in some degree in individuals who show the heretofore recognized signs of congenital syphilis, and that the scaphoid scapula and some of its correlations are rarely absent in the progeny of syphilitic parents, even in such progeny as we have heretofore considered free from every sign of hereditary taint.

A seemingly convincing proof of the rôle played by syphilis in the causation of the scaphoid scapula and its syndrome is found in families of which I have thus far found ten examples like the following:

Both parents having average scapulæ; the father after begetting several children, each having average scapulæ and comparing favorably with himself and the mother, contracts syphilis. The children begotten after the infection show deviations, including the scaphoid scapula and its syndrome in varying degrees and compare unfavorably with the children begotten before the infection and compare unfavorably with the parents.

From my clinical and comparative clinical studies I have been forced to conclude that syphilis in the parents or more remote ascendants is one cause of the scaphoid scapula, but we must not conclude that syphilis is the only factor in the causation of the scaphoid scapula. There may be, nay, more! I believe there must be other factors, although diligent search extending over almost six years has failed to disclose any other definite cause. For the reason that the scaphoid scapula may be hereditary and for the further reason that there may be other causes for it than syphilis, we are not justified in assuming that any individual in whom we find the scaphoid scapula is a congenital or heredo-syphilitic. Before we may definitely determine either the origin or the clinical significance of the scaphoid scapula and its syndrome in any individual, we must study him from every angle and in a comparative clinical way with his own generation, with

his parents and, when possible, with his more remote ascendants.

With the use of modern refinements in clinical investigation, with the use of laboratory methods to confirm and control clinical deductions, with patient study of individuals and of individuals of families, rather than the histories of individuals of families, the clinical significance of the scaphoid scapula and its syndrome may be readily determined. Clinical consideration of the scaphoid scapula and its syndrome by many workers will, undoubtedly, broaden our conceptions concerning the pernicious effects of syphilis in individuals who have acquired it, in their children and in their children's children.

#### APPENDIX.

TENTATIVE CONCLUSIONS, BASED UPON STUDIES OF MANY INDIVIDUALS AND FAMILIES, FORMULATED AS A THESIS AND FIVE HYPOTHESES ELUCIDATING THE ORIGIN AND TRANSMISSION OF THE SCAPHOID SCAPULA UNDER NORMAL AND ABNORMAL CIRCUMSTANCES.—AN ABNORMAL CIRCUMSTANCE EQUALS SYPHILIS IN THE PARENTS.

THESIS.<sup>1</sup> The scaphoid scapula is an anomaly in development originating in the progeny from some abnormal circumstance operating in the parents; is thereafter transmitted from parent to child and so on through several generations; and, unless the abnormal circumstance again becomes operative in the descendants, the scaphoid scapula finally disappears and the racial type again becomes dominant.

HYPOTHESIS 1. Since scapulæ having more or less convex vertebral borders have been shown to represent the racial type of scapula, we should expect under normal circumstances that the children of parents having this type of scapula should have a similar type.

HYPOTHESIS 2. From one or both parents having scaphoid scapulæ we should expect, under normal circumstances, in their progeny: (a) if only one has it, the children to show it less marked than the parent having it; (b) if both parents have the scaphoid scapula, we should expect their children to have it more marked than either parent, or at least to be as well marked as the parent showing it to the least degree.

HYPOTHESIS 3. Both parents having average scapulæ, we should expect, under abnormal circumstances, their children to show scapulæ of the scaphoid type, the degree in each child from the oldest to the youngest depending upon either the remoteness from or the activity of the abnormal circumstance producing it, and as a rule the youngest child should show the scaphoid scapula to a less marked degree than the oldest.

HYPOTHESIS 4. Where only one parent has the scaphoid scapula we should expect, under abnormal circumstances, all of the children to show it to a greater degree than the parent having it and, all things being equal, the youngest child should show it to a less marked degree than the oldest.

HYPOTHESIS 5. Where both parents have scaphoid scapulæ, we should expect, under abnormal circumstances, all of their children to show the same type, but to a greater degree than either parent, although depending upon the remoteness from or the activity of the abnormal circumstance, the youngest child may show it less than the oldest, but equal to that parent having it the least.

<sup>1</sup>The Scaphoid Scapula, a Frequent Anomaly in Development of Hereditary, Clinical and Anatomical Significance, *Med. Rec.*, May 21, 1910.

DISCUSSION.

DR. ZEISLER said the members of the Association were under obligation to Dr. Graves for his presentation of these cases and his elucidation of the subject. When Dr. Graves published his original communication on this subject, the speaker said it was submitted to him for inspection and, though he had since become familiar with the author's subsequent publications, he did not realize how much there was in the subject until he actually saw the cases.

DR. RAVOGLI said he was very glad to see the presentation of these cases showing this deformity of the scapula as a stigma of hereditary lues, probably in the third generation. Bony deformities of this kind were probably the result of a chronic endarteritis, which caused an interference with the circulation, in turn affecting the nutrition of certain parts of the body, with consequent lack of development. This might occur in the scapula or elsewhere. The observations of Dr. Graves had, the speaker said, a great deal of interest, and in young patients, together with the other signs, might help in the diagnosis of hereditary lues.

DR. SCHALEK said he was glad to learn of one other possible diagnostic feature of hereditary syphilis. The ones we now looked for in these cases were frequently absent and the speaker said that in the future, when he met with a case of suspected hereditary syphilis, he would certainly be on the lookout for the scaphoid scapula.

DR. GRAVES said that while one was perhaps apt to become too enthusiastic in regard to any particular branch of work in which one had become interested, still he believed that thus far he had not made a single statement in regard to the occurrence of the scaphoid scapula that was not capable of verification, providing the cases were carefully studied. In connection with this subject, the speaker suggested comparative clinical studies of the progeny of syphilitic parents, even of those parents who had undergone a long and thorough course of treatment. Such investigations, he believed, would eventually determine the hereditary and clinical significance of the scaphoid scapula.

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MULTIPLE LYMPHOID TUMORS OF THE SKIN: REPORT  
OF A CASE.\*

By JAMES MACFARLANE WINFIELD, M.D., Brooklyn.

**T**HE subject of this report is a spinster, aged seventy-five years, who was referred to me by Dr. Warren L. Duffield, of Brooklyn, in October, 1909.

She was born in Ireland, but has resided in the United States since she was a young woman. With the exception of smallpox when she was five years old, she has never had any severe illness; no syphilis, malaria, nor any other ailment. Although past seventy, she appears much younger.

The present skin disease dates back to 1906. The first indica-

\*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

tion of the cutaneous disorder was the appearance of two small, hard papules over the left malar prominence which were intensely itchy. When she first noticed them they were about the size of the head of an ordinary pin; both tumors grew with considerable rapidity, until they attained the size of a large filbert; they never coalesced but each kept its own contour; in fact, this has been the case with all of the tumors, except those of recent origin in the lobes of the ears. After the two lesions on the cheek had existed for about three months, she noticed a few small ones scattered over other portions of the face and forehead. A little later the same papular growths appeared on the back of the neck; later still, the arms and upper part of the trunk became involved and, finally, about a year from the time she first noticed the growth on the left cheek, the process had spread until the face, neck, arms, trunk and thighs were thickly studded with tumors varying in size from a minute mustard seed to a hickory nut. The condition had advanced to this stage when she was referred to me. (Fig. 1.)

Nothing was discovered upon physical examination. The heart and lungs were normal; there was no enlargement of the spleen or liver and no appreciable enlargement of the superficial glands. Examination of the urine revealed nothing abnormal.

The patient said she had always suffered more or less from constipation. Her general appearance was that of a remarkably well preserved woman.

Except for the itching of the skin and the visible presence of the cutaneous tumors, the patient did not suffer from any distress, pain or ill-feeling. The primary tumors were about the size of a hickory nut, deeply imbedded in the skin of the left cheek just at the border of the malar prominences. There were a number of smaller lesions over other portions of the face, forehead and back of the neck, while over the arms, trunk and thighs the tumors were so thickly studded that it would have been impossible to count them. Many of the lesions were very minute, not much larger than a pin point, but each one, whether large or small, retained its individual shape and contour and was sharply divided from the healthy skin. In color they were brownish yellow, rather translucent: the large ones appeared like a nodule of yellowish-brown wax over which a thin transparent membrane had been tightly drawn. Some of the smaller tumors resembled canary seeds, deeply imbedded in the tissues, with the same thin membrane tightly drawn over them. The same general appearance was characteristic of the very minute lesions.

The patient said that the skin covering the diseased parts was

intensely itchy, although it did not show any evidences of having been scratched. The multiple tumors of the face gave the woman the appearance of a leper.

Examination of the blood made at this time proved practically negative as shown by the accompanying report: Blood examination, January, 1911. Red cells, 4,400,000; white cells, 8,000; hæmoglobin, 82%; large and small lymphocytes, 40.2%; large mononuclears, transitionals and eosinophiles, 6%.

A month later the patient was shown at one of the regular meetings of the New York Dermatological Society. There were various diagnoses advanced, but the prevailing one was that it was a case of sarcoma cutis. Microscopical examination of one of the older tumors appeared to strengthen this clinical diagnosis, for it appeared to have the pathological construction of a small cell sarcoma (Fig. 3).

During the next year the patient was seen at frequent intervals and, except for the increased number of the tumors and enlargement of some of the older ones, nothing of importance was noted. The patient's general health remained good and, except for the continued pruritus, she did not suffer subjectively.

A few months later the case was demonstrated at the Mid-winter Clinical Meeting of the American Dermatological Association. The symptoms had not, apparently, changed, her health had remained good and none of the tumors had ulcerated. At that time some of the members expressed their belief that it was an example of leukæmia cutis (Fig. 2).

Another physical examination immediately after the meeting did not reveal any apparent changes in the liver, spleen or the superficial glands, nor has there been any change in these organs up to the present time.

The patient had been taking moderate doses of arsenic and, either through the influence of this drug, or for some other reason, a number of the older tumors have disappeared.

In June, 1911, sections were taken from both the older and more recent tumors. They were submitted to Dr. Archibald Murray, Professor of General Pathology at the Long Island Medical College. He also made a careful analysis of her blood and reported as follows:

Blood examination, 1911. Red cells, 4,400,000; white cells, 9,500; hæmoglobin, 82%; color index, 0.93%; large mononuclears and transitionals, 6.6%; neutrophiles, 40.2%; large and small lymphocytes, 52.3%; eosinophiles, 0.9%; basophiles, 0.0%. Stained specimen: no poikilocytosis or polychromatophilia; no myelocytes or erythroblasts; no malaria parasites.

His report of the microscopical examination of the tumor shows two types of cells, one, composed of lymphoid elements, resembling those found in true lymphomata: the tumor consisted almost entirely of these cells. The second type of cell was probably of endothelial origin and was found scattered throughout the lesion. The blood vessels were normal, there was very little intercellular stroma and no karyokinesis.

Upon examination with an oil immersion lens, the lymphoid elements of the tumor correspond closely, in regard to size, shape and character of the nucleus, with the cells of a true lymphoma (Fig. 4).

At first Dr. Murry was inclined to diagnose the condition as one of lymphosarcoma, but further study led him to believe that the tumors were simple lymphoid growths. This latter diagnosis is probably the correct one, for true lymphosarcoma is generally a malignant disease, running a fairly rapid course, while this patient is still living and in perfect health and many of the tumors, especially those on the arms and body have disappeared. This involution is probably due to the continued administration of arsenic. A recent examination of the blood (April, 1912), indicates that the blood is again approaching the normal, as demonstrated by the accompanying report: Blood examination. Hæmoglobin, 80%; erythrocytes, 4,748,000; morphology, normal. Leucocytes, 5,200; polymorphonuclears, 51%; small lymphocytes, 13%; large lymphocytes, 19%; large mononuclears, 5.5%; transitionals, 3.5%; eosinophiles, 4.5%; basophiles, 3.5%.

Since this patient has been under my care I have devoted considerable time to the study of cutaneous new growths, especially the so-called, non-malignant sarcoma, lymphosarcoma and the cutaneous neoplasms so frequently accompanying leukæmia and pseudo-leukæmia.

Judging from the widely different histological findings of the different observers and the apparent clinical difference of the reported cases, one is led to assume that the comprehension of these new growths will continue to be an interesting field for investigation for some time to come.

The case under discussion corresponds very closely to the one Newburger reported in 1892. His case had the same hard, papular growths starting in the deeper structures of the corium, many of the tumors lasting for years without any marked effect upon the general health of the patient. His case, too, did not show any very significant blood changes until late in the course of the disease, then the patient developed symptoms of leukæmia and finally died.

My patient, however, has not yet developed any suggestive symp-

PLATE XIV.—To Illustrate Article on "Multiple Lymphoid Tumors of the Skin," by Dr. JAMES M. WINFIELD.



Fig. 2.  
Photograph taken one year later, showing beginning tumor-formation on ears and eyebrows.



Fig. 1.  
Photograph taken when first seen





PLATE XV.—To Illustrate Article on "Multiple Lymphoid Tumors of the Skin," by DR. JAMES M. WINFIELD.

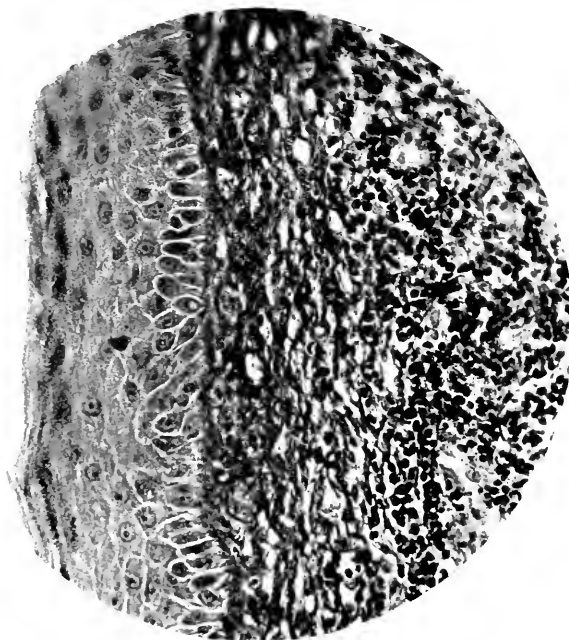


Fig. 4.  
Second microscopical examination.

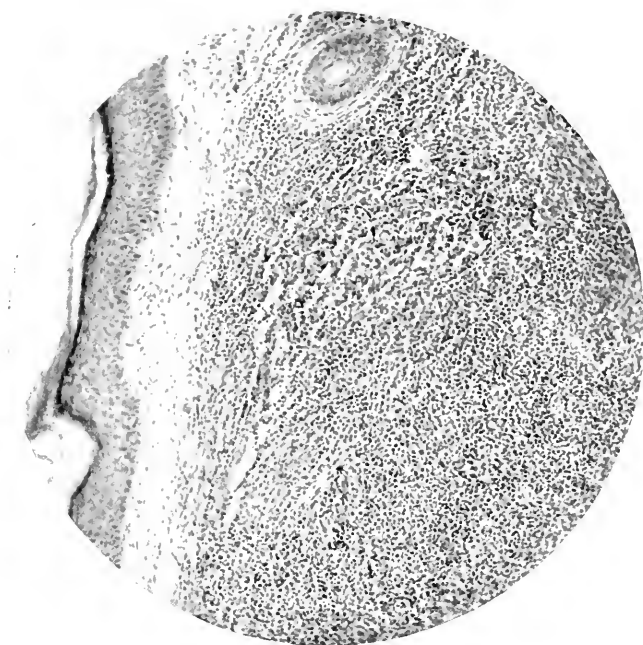


Fig. 3.  
First microscopical examination.



## MULTIPLE LYMPHOID TUMORS OF THE SKIN 249

toms; in fact, her cutaneous condition seems to be improving and thus far she has not developed any general symptoms that call for attention.

NOTE.—Feb. 15, 1913. The patient is still living, but not as strong as a year ago. The loss of strength is apparently due to old age, for a recent examination revealed nothing wrong with any vital organ. For two months the arsenic was discontinued. The tumors on the cheeks, ears and eyebrows began to enlarge rapidly. Another examination of the blood gave practically the same findings as the last report.

### DISCUSSION.

DR. GRINDON said the case reported by Dr. Winfield reminded him of one concerning which he was for a long time at sea, and finally made a provisional diagnosis of leukæmia cutis. The affection began as a severe pruritus about the scalp; then deep-seated, hard nodules appeared about the cheeks, first on one, then on the other. Some of these nodules had the normal color of the skin, while others were pink and others red. Subsequently, they appeared about the ears, developing in large numbers on the lobules, giving the ears a contour like that in leprosy. The forehead became thickened, giving rise to leontiasis. Later, lesions developed over the entire body, particularly the chest, abdomen, back, arms and legs. Some of these lesions were subcutaneous with superficial discoloration. Others were raised; all were intensely pruritic. There was considerable anæmia. There was stone-hard enlargement of the axillary and inguinal glands. The affection resisted all treatment, but finally disappeared spontaneously in the course of a few days. Subsequently, the patient had a slight recurrence, but finally, after some ten years, he made a permanent and complete recovery.

DR. POLLITZER said that while he had had the opportunity of examining two of the sections which were brought to the meeting by Dr. Winfield, he did not care to venture a diagnosis, because in the study of a tumor of this sort one needed a great many sections stained by various methods. An examination based on two sections was necessarily inadequate. Furthermore, in studying such a tumor, it was better not to take a fully developed growth, but rather one of the tumors during its incipency.

As to the growth itself, Dr. Pollitzer said his first impression was that it was of lymphatic origin; the cells were of the character called lymphoid, which was practically all that could be said about them. There were some signs of degeneration, due probably to the age of the tumor, and there were also a few small giant cells. From the general pathological picture, one would be very apt to call the growth a round-celled sarcoma. We applied this term to a great many different conditions that were histologically similar though clinically different. If a growth proved fatal rather rapidly, then we called it a sarcoma, but if it was made up of round lymph cells and did not materially affect the patient's health, then we decided that it could not be sarcoma. That the case reported by Dr. Winfield was not one of leukæmia must be manifest from the general picture—the absence of lymphatic enlargement and the perfectly normal blood picture.

## CAN PSORIASIS BE CURED? \*

By AUGUSTUS RAVOGLI, M.D., Cincinnati.

MANY investigators consider psoriasis to be a parasitic affection. We have, for instance, the epidermosporon theory of Lang,<sup>1</sup> supported by Behrend<sup>2</sup> and the *Lecopolla repens* theory of Eklund.<sup>3</sup> Campana<sup>4</sup> and his pupil, Martegiana,<sup>5</sup> have described a body found in psoriatic lesions, which resembles the prickle cell of the epidermis and which they thought might be the causal parasite. The organisms could not be grown in culture nor were they constantly present in the lesions. Examples of experimental psoriatic inoculation have been reported, but they failed to actually prove the contagiousness of the disease.

If psoriasis were a purely local disease, due to the presence of a parasite, the simple application of an antiparasiticide, such as chrysarobin, would cure the affection forever. Such a happy result, unfortunately, is rarely seen and even Lange,<sup>6</sup> who claimed to be able to permanently cure the disease by the use of green soap and carbolized oil, finally acknowledged that a relapse in from one to three years was the rule.

Indeed, the irritation produced by chrysarobin or pyrogallol is not infrequently the cause of a relapse which is more severe than the original eruption. The same may be said of the X-ray.

In brief, it can be said that psoriasis has no proven bacteriology or contagiousity and that local applications may effect temporary relief, but they cannot permanently cure the affection.

Is psoriasis a discrasic disease? Bazin maintained that it was due to an arthritic or to an herpetic diathesis, while Hardy and Hillairet admitted an unknown cause which they called "darthrose." Goucher, also, considers psoriasis to belong to the arthritic diathesis, yet many psoriatics suffer only from their cutaneous eruption. On the other hand, it is not uncommon to see people who are suffering from psoriasis exhibit, also, arthritic symptoms. This makes one think of a rheumatic, gouty or uric-acid diathesis, which is very significant.

A physician, according to his theory as to the aetiology of psoriasis, will have a patient abstain from all stimulants and adhere to a strict vegetarian diet. I have seen very few men adhere to these

\*Read before the 36th Annual Meeting of the American Dermatological Association, St. Louis, Mo., May 23-25, 1912.

rules, but have had women, after this régime, come to me in an anæmic and starved condition with the eruption still present. When such patients have heard my views regarding a liberal diet they have given expression to a sigh of relief.

In my practice I have rarely found an excess of urates in the urine of a psoriatic. Many patients who were suffering from arthritis and gout have never exhibited psoriasis. Such an individual is more likely to develop an eczema than a psoriasis. Intestinal intoxication as a causal factor has also been considered, but this is likely to cause urticaria or erythema, rather than psoriasis which, starting at a young age, persists throughout the life of the individual. For all these reasons the theory of autotoxines circulating in the blood and causing the eruption has been discarded.

The possibility of psoriasis being due to a neuropathic condition was first pointed out by Weyl.<sup>7</sup> He maintained that an hereditary weakness of that part of the nervous system which regulated the nutrition of the skin, was the cause of psoriasis. Tilbury Fox spoke of trophic disturbances in psoriasis with neuropathic disturbances, such as hysteria and neuralgia. Polotebnoff<sup>9</sup> considered psoriasis a vasomotor neurosis. Kutznitzky<sup>10</sup> strongly upheld the neuropathic theory. He thought that not the disease but only a tendency to acquire the disease was hereditarily transmitted. Kutznitzky considers the predisposing factor to consist of an irritable condition of the central nervous system and psoriasis to be an angioneurosis.

Formerly I was opposed to these views and I rather stood for a possible irritation produced by uric-acid compounds in the system. Recently, however, from long observation, I have adopted the idea of the nervous origin of psoriasis. On the other hand, it must be admitted that nothing comes from nothing and if the eruption has its origin in the nervous system, there must be a serous effusion, an infiltration or a hardening of some kind in the meninges, which causes irritation of the nerves which control the nutrition of the skin. We must remember that in the embryo, the skin and the nervous system are developed from the same identical blastodermic membrane and between the skin and the nervous system there must be a more intimate relation than we have ever thought possible.

Syphilis poisons the organism and when transmitted by heredity the nervous system and the skin are mostly affected. Indeed, in tainted children apparently in good health, the nervous system and the skin show a peculiar weakened condition and the latter is subject to pemphigoid or hyperkeratotic eruptions, as, for instance, pemphigus of the palms and soles. This relation between the nervous sys-

tem and the epidermis as the result of hereditary lues was well pointed out by Campana and his pupil, Foglietta.<sup>11</sup>

In another article I have tried to recognize a possible relation between syphilis and psoriasis, but not in the sense of Erasmus Wilson, who believed psoriasis to be due to an attenuated syphilitic virus. I am in accord with the views of Alpar,<sup>12</sup> who believes that the syphilitic virus produces alterations in the central nervous system, which, later on, causes the psoriatic manifestations in the skin. If this were true, psoriasis would be only a post-syphilitic affection, caused by the irritation of the ganglia of the central nervous system. I firmly believe that psoriasis is the result of an old and extinguished syphilitic process, which has caused superficial, but permanent lesions in the meninges, which by reflex action produces psoriatic eruptions.

Indeed, psoriasis is not an inflammatory process: it is entirely different from the syphilitic papula, which is formed by inflammatory infiltration in the derma, particularly in the papillary layer. In psoriasis the first and most prominent feature is an hypertrophy of the epidermis. For this reason Auspitz considered psoriasis to be an anomaly of development of the epidermis. I have already published the results of a post-mortem examination in a man who, after a severe case of syphilis fourteen years previously, suffered with a squamous eruption resembling parapsoriasis. The Wassermann test proved negative on two occasions and anti-syphilitic treatment was not efficacious. The man died in a comatose condition. The autopsy revealed an abundant, thick, yellowish exudation in the meninges covering the parietal lobes and the base of the brain. This prompted the idea that the long-continued irritation of the central nervous system was the principal cause of so deep and persistent an eruption. Not infrequently, patients who have never suffered with psoriasis, develop the disease a year or two after having acquired syphilis. It seems to me that we can come to the conclusion that psoriasis is a disease of the epidermis due to faulty trophoneurotic action affecting the nutrition of the skin.

In reviewing the old literature we find this same idea. Cheadle<sup>13</sup> referred to a syphilitic psoriasis, which was cured with potassium iodide. Mauriac<sup>14</sup> described three types of psoriasis: arthritic, herpetic and syphilitic. For the last form, the remedy is iodide of potassium. Potassium iodide has been used quite extensively in the treatment of psoriasis and has been most beneficial in the treatment of psoriatic children. The frequent association of psoriasis with neuroses, such as chorea, eclampsia, hysteria, etc., reminds us of the frequency of some of these conditions in tainted children. The idea

that all children affected with hereditary lues show manifestations of syphilis or are badly nourished is wrong. We often see children, from syphilitic fathers, enjoying good health, yet, at a certain age they begin to have attacks of Jacksonian epilepsy, affections of the joints, parenchymatous keratitis, etc. In these individuals we find psoriasis.

Now, what can we do for our psoriatic patients? Lang, speaking of the treatment of psoriasis, sees the necessity of employing anti-parasitic remedies, yet he advises the internal use of arsenic, which he claims has a good action on the psoriatic lesions. How does the arsenic act in psoriasis? So far nobody knows, but everybody agrees in its beneficial action. It has been claimed that arsenic acts directly on the epithelium, producing glossy hair, better complexion, etc., and from this has been attributed the beneficial action of arsenic in psoriasis. Chiamenti<sup>15</sup> reported a case of psoriasis treated in a few days with an enormous dose of arsenious acid accidentally taken. He prescribed to a patient a box of tablets, each one of which contained 2 milligrams of the drug. The patient took all the tablets in two days (10 centigrams of arsenious acid); from this dose no poisoning resulted and the eruption began to disappear in a very few days. In my practice I use with good results, subcutaneous injections of a 10 per cent. solution of cacodylic acid, one injection two and three times a week. The beneficial action of the arsenic in psoriasis is believed by Polotebnoff to be due to its action on the nervous system, as it is a drug used by neurologists in the treatment of neuroses. To-day we know that arsenic is the most powerful remedy against spirilloses and, consequently, against syphilis. Salvarsan acts splendidly as a remedy against an active syphilis, its manifestations disappear in a short time, but it has not much effect on parasymphilis which is the result of an extinct process. It seems to me, and it is also the opinion of others, that salvarsan has no effect, at least apparent, in the course of psoriasis. In a case of syphilis associated with psoriasis, where it was difficult to define one eruption from the other, the administration of salvarsan in two days cleared the syphilitic symptoms, but showed no influence on the psoriasis.

We cannot say the same for the use of arsenic in other forms, because as arsenite of sodium (Fowler's solution), as arsenious acid (Asiatic pills), as arsendiamethyl (cacodylic acid), it has given always good results in the treatment of psoriasis. I have a list of psoriatic patients of both sexes, treated years ago, whom I have had the opportunity of observing for many years, and who have never shown relapses.

I have nearly abandoned the use of chrysarobin, pyrogallol and tar, for the reason that they cause too much discomfort to the patient. I find in cases of ordinary psoriasis that a salve with white precipitate gives the best results:

Hydrarg. precip. alb. gr. v to x.  
 Bismuth subcarb.,  
 Zinc oxyd. aa ʒss.  
 Acid carbol. gtt. vi.  
 Petrolat. alb. ʒi.

Balmanno Squire<sup>16</sup> reported a case of psoriasis cured in six days by means of the use of a salve of red iodide of mercury applied under a rubber cover:

Hydrarg. ioidid. rub. 0.75.  
 Ol. amygd. dulc. 1.00.  
 Ung. simpl. 30.00.

When the internal use of arsenic has no more effect in psoriasis, potassium iodide is indicated. In many cases which had been treated for years with arsenic, with chrysarobin, etc., I have obtained brilliant results by changing treatment to potassium iodide internally and to white precipitate salve locally. Many of my psoriatic patients treated with these remedies have shown no recurrences, giving me the idea that the disease had been cured, and that psoriasis is curable.

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## DERMATOLOGICAL THERAPEUTICS.

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## RESORCIN.

Like salicylic acid, resorcin possesses a wide range of usefulness in dermatology. While frequently misused by those who have not taken the trouble to study its effects upon the skin, resorcin is remarkable for the comparative certainty of its action and the constantly favorable manner in which it influences some of the commoner cutaneous diseases when intelligently applied.

Resorcin was introduced to the medical profession in 1881 by Audeer, who made exhaustive physiological and therapeutic tests and published his results in a series of articles (*Centralbl. f. d. med. Wissensch.*, 1881-1889). Resorcin was at first used as an antiseptic, but its germicidal qualities were found to be inferior to those of phenol. For some time it enjoyed considerable popularity as an intestinal antiseptic and was also used as an antipyretic, but its toxic properties made its internal administration so dangerous as to cause it to be generally abandoned for this purpose. It was used for external applications shortly after its introduction, and its great value in dermatology is now universally admitted.

Resorcin ( $C_6H_6O_2$ ) is a diatomic phenol and occurs as colorless, needle-shaped crystals, which have a slight but characteristic odor and a disagreeable, sweetish taste. Upon exposure to light and air, resorcin turns yellow or yellowish-brown, and hence solutions of it should be kept in dark, well-stoppered bottles and *white* resorcin always prescribed.

**SOLUBILITY.** Resorcin is soluble in 0.5 parts of water, 0.4 parts of alcohol, very soluble in ether and in glycerine, but sparingly soluble in chloroform, carbon disulphide and benzine. It is soluble in 20 parts of fixed oil.

**INCOMPATIBILITIES.** Wilcox (*Materia Medica*, 7th ed., p. 194) gives the following list of drugs as incompatible with resorcin:

- Acetanilide.
- Alkalies.
- Antipyrine.
- Camphor.
- Ferric chloride.
- Menthol.
- Spirits of nitrous ether.

To the above may be added such general incompatibilities as corrosive sublimate, iodine, permanganate of potassium and the mineral acids. In my own practice, I frequently combine resorcin with camphor, and have failed to notice any effect upon the action of the former, or, in fact, any disadvantages.

**COLOR CHANGES. STAINING OF SKIN AND HAIR.** Practically all of the above incompatibilities produce various changes of color when combined with resorcin. Ruddiman (*Incompatibilities*, 3rd ed., p. 182) states that when combined with ichthyol and iodine in an ointment, resorcin changes to blue and finally to greenish black. As stated above, resorcin becomes yellow or yellowish-brown upon exposure to light and air. This is hastened by the presence of alkalies. Resorcin should not be used on the scalp of patients with gray hair, as it produces a faded-yellow color, which cannot readily be removed. Resorcin soap colors the skin a faint reddish-brown, even when used for ordinary toilet purposes. Preparations with a large proportion of resorcin (10-15%) often produce a brown stain, but as exfoliation occurs promptly and removes this color with the horny layer, this fact is unimportant. Monoacetate of resorcin, it is claimed, does not stain the hair. MacKee (personal communication) reports the case of a young woman with pityriasis capitis whose dark-brown hair was, in one circumscribed area only, colored a bright green hue after the use of a lotion containing, together with other remedies, resorcin. The exact ingredients of the mixture could not be ascertained. Liebreich states that the brown stains of resorcin can be removed by lemon juice or a solution of citric acid.

**ACTION OF RESORCIN UPON NORMAL SKIN.** This subject has been studied experimentally by T. C. Kellogg (*Einwirkung des Resorcins auf die gesunde Haut*, *Monatsh. f. prakt. Dermat.*, 1897, xxiv, p. 233), Cornelius Beck (*Resorcinschwarten*, *ibid.*, p. 601), and Kopytowski (*Medycyna*, 1908, Nos. 30-31).

Kellogg, whose article is probably the best on the subject and contains excellent illustrations, used as material the ears of rabbits and guinea-pigs as well as the skin of his own forearm. He arranged his tests with the object of producing slight, medium and severe grades of resorcin dermatitis. The general pathological changes in all three groups demonstrated that:

1. The alterations produced were strikingly uniform and simple in character.
2. They are limited to the epidermis and papillæ of the dermis. The last-named is unchanged.
3. The blood vessels are normal in size and show neither thrombi nor pathological changes in their walls.
4. Immigration of leucocytes is less than in salicylic acid dermatitis, while the extensive pus formation and liquefaction necrosis seen in severe pyrogallie acid dermatitis could not be produced with even the strongest proportions of resorcin suitable for therapeutic uses.

5. The appearance of vesicles and bullæ accompanied by much redness and swelling is the result of individual idiosyncrasy rather than the usual effects of resorcin.

The mild grade of resorcin dermatitis was produced by three applications of a 50% solution in ether. This caused a thickening of the stratum corneum, but without desquamation or separation from the underlying layers, a disappearance in spots of the stratum granulosum and a reduction in thickness of the stratum filamentosum. There were no traces of an immigration of leucocytes into the dermis.

The medium grade of dermatitis resulted from two applications of a 50% alcoholic solution or 20% dissolved in collodion. Here the typical action of the drug becomes apparent. The horny layer is thick and stiff and exfoliates in spots as thick leaves or separates from the lower layers; upon these a new stratum corneum forms, but its cells have nuclei which stain. A few polynuclears appear in the stratum filamentosum.

The severe grade of dermatitis was caused in a rabbit's ear by daily applications of a 50% solution in alcohol, and of the resorcin plaster muslin upon the human skin for eight days. Here there was found a complete separation of the upper three epidermal layers which formed the exfoliated mass. Beneath this the stratum filamentosum remained normal and produced a new granular and horny layer, which protected the skin from further penetration of the resorcin. There were many mitoses, and the blood vessels (of the papillæ) were filled with leucocytes, some of which were also found in the epidermis.

Kellogg's conclusions are approximately as follows:

1. Resorcin, even in strong concentrations, causes a uniform but superficial necrosis, which is self-limited and which leaves the dermis and its blood vessels almost unaffected.

2. Resorcin penetrates through the horny layer and changes the granular and upper portion of the filamentary layer into a membrane resembling the horny layer, but lacking the homogeneity of the latter. This demonstrates the keratinizing action of the drug.

3. The skin appears to be able to automatically protect itself from resorcin, making the latter an ideal exfoliant, which combines great safety with a welcome mildness of action.

Kopytowski used ointments containing resorcin in proportions of from 1-8 to 1-6. His conclusions differ somewhat from those of Kellogg's. They are in part as follows:

- A. Resorcin causes cutaneous inflammation.

- B. It stimulates the production of epidermis. There is no death of the horny layer, but its nuclei can be stained.

- C. Even 24 hours after the application, the papillary blood vessels were dilated, the endothelium swollen and leucocytes appeared.

- D. The microscopic picture resembles that of psoriasis, differing from the latter by the integrity of the horny layer.

E. Pigment cells wander from the cutis toward the upper epidermal strata and perish under way.

Beck confined his studies to a microscopic examination of the resorcinized, exfoliated tissue, produced by Unna's exfoliation treatment, or "Schälkur." He found that after 3 to 4 days' treatment with the 50% paste, the horny layer is  $\frac{1}{3}$  to  $\frac{1}{2}$  mm. thick. Further applications do not increase this thickness, but separate the horny layer from its base. In this exfoliated mass there are many minute pouch-like depressions, which often contain masses, which are soft and greasy or hard and horny. These are from the follicle mouths. In these masses Beck found microbacilli.

**THERAPEUTIC ACTION OF RESORCIN.** When applied externally in suitable proportion and in an appropriate manner, resorcin is capable of acting as an

Antifermentative.

Antiseptic.

Antipruritic.

Astringent.

Dessicant.

Keratoplastic.

Keratolytic.

Reductant.

Exfoliant.

Caustic.

The above list shows the great variety of effects which resorcin may produce, and it also makes clear the reason why this remedy may cause injury to the patient if prescribed by a physician who does not know how to use it. Resorcin, like pyrogallol, chrysarobin and other reductants, is essentially an instrument of precision, and as such must be used intelligently and with unrelenting care.

**ANTIFERMENTATIVE.** Liebreich and Langgard (*Arzneiverordnung*, p. 633) state that  $\frac{1}{2}$  to 1% acts as an antifermentative. H. C. Wood (*Therapeutics*, 11th ed., p. 572) quotes Martin Colm and Andeer (*Ueber das Resorcin*, Würzburg, 1880) as stating that 1% is sufficient to arrest for a long time putrefactive changes in the urine, while the United States Dispensatory (19th ed., p. 1056) states that this proportion will also arrest putrefaction in organic infusions and even animal tissue, although inferior in this respect to phenol. The usefulness of resorcin in those skin diseases which are characterized by hypersecretion with resulting putrefaction and maceration (hyperidrosis, certain types of eczema, intertrigo, etc.), is therefore evident.

**ANTISEPTIC.** As a simple antiseptic, resorcin is inferior to many other germicides, including even phenol. As such it is used in solutions of 1-2%, and is recommended in a general way by Crocker (*Diseases of the Skin*, 3rd ed., p. 81), and by von Zumbusch (*Therapie der Hautkrankheiten*,

p. 69), to disinfect the surfaces of wounds and ulcers. Callias (*Klinische Studien über das Resorcin*, *Monatsh. f. prakt. Dermat.*, 1887, vi, p. 938), used hourly applications of resorcin 3.0, glycerine 20.0, and water 120.0 gm. for erysipelas, and saw immediate improvement, limitation of the disease's area and early cure. He used a similar solution for painting varicose ulcers, and found it to act well as an antiseptic and also to produce local anæsthesia. The same solution proved excellent for treating phlegmons, abscesses, wounds and bites of insects.

While when used in similar percentages, resorcin is certainly much inferior to other antiseptics, when judged by the usual standards, it is without question an excellent parasiticide in strengths of 2% and over and one, too, which is particularly suitable to dermatological therapeutics. The antiseptic action is due (according to an editorial note in *La Presse Médicale*, January 11, 1908) to three factors: direct action upon the bacteria, indirect action by depriving aerobic germs of the oxygen necessary for their development and, finally, *by mechanical removal by exfoliation of the tissues containing the bacteria*. This explains the peculiar effectiveness of resorcin in such superficial cutaneous infections as pityriasis, seborrhœa, seborrhœic dermatitis, acne vulgaris and many forms of eczema.

**ANTI-PRURITIC.** As a reliable antipruritic, resorcin is surpassed only by carbolic acid, with which it is chemically and physiologically allied. Its action, like that of carbolic acid, tends to produce a mild local anæsthesia, which, combined with its astringent, dessicant and reductant effects, usually affords prompt relief to the subjective symptoms of acute cutaneous inflammation. Unna (*Ichthyol and Resorcin*, Hamburg, 1886, p. 71) states that itching decreases in intensity and usually disappears under the influence of resorcin. C. W. Allen (*Some New Remedies in Dermatological Practice*, *Med. Rec.*, 1892, No. 42) also found resorcin a good antipruritic, and states that local anæsthesia produced by a single application lasted several hours. Stelwagon (*Diseases of the Skin*, 5th ed., p. 117) refers, under the heading of antipruritics, to the quieting action of resorcin. Dreckmann (*Ueber Resorcin und eine besondere Form der Anwendung derselben bei Hautkrankheiten*, *Monatsh. f. prakt. Dermat.*, x, 1891, p. 389) recommends the use of wet dressings, soaked with 1 to 3% resorcin in water and protected by a covering of oiled silk or paper. Such a dressing excludes air and oxygen, protects from trauma and relieves local tension by stimulating the local circulation and keratinization. In the case of a private patient with chronic anal eczema and intense, at times almost insupportable pruritus, I found that local applications of a 5% alcoholic solution of resorcin repeated hourly until the pruritus disappeared and then three times a day, not only afforded prompt relief of the subjective symptoms, but caused an apparent cure of the disease.

As an antipruritic, resorcin is exhibited best in aqueous or alcoholic solutions of from  $\frac{1}{2}$  to 3%, while an ointment for this purpose should

not contain more than 5% of the medicament at most, unless a keratolytic effect is also desired.

**ASTRINGENT.** Astringent qualities are claimed for resorcin by Leistikow and Darier (*Therapeutique des maladies de la peau*, p. 127), and Paschkis (Lesser, *Encyklopedie der Hautkrankheiten*, p. 440). These are due chiefly to its action as a dessicant.

**DESSICANT.** Practically all writers on the subject have noticed the property of resorcin in weak (1 to 3%) solution to dry up moist surfaces by reëstablishing normal circulatory conditions in the cutis and by promoting rapid keratinization in the epidermis. This drying action on the skin is so pronounced that care must be exercised to avoid an exaggeration of the effect, which may lead, as Dreckmann states in his article (quoted above), to hyperplasia of the stratum corneum, which would also be dry and brittle. In the chronically congested skin with the moist or greasy surface of certain types of rosacea, the effect of an exfoliating treatment (Schälkur) with a 20 to 50% resorcin paste or plaster is usually excellent, causing the skin to become firm, dry and approximately normal in color. The astringent and dessicant effects of resorcin are thus seen in the action of both small and large percentages of the drug.

**KERATOPLASTIC.** Together with its keratolytic property, the stimulating effect of resorcin upon keratinization is its most useful action. The mechanism of this has been described in our summary of Kellogg's article in the paragraph relating to the action of the drug on the normal skin. As a keratoplastic, it acts best in proportions of from 2 to 4% in solution, and its use should be discontinued as soon as a satisfactory result is obtained. Salicylic acid may be added to the solution to the extent of 1 to 3% in cases which fail to respond promptly to the resorcin when used alone. Jessner (*Dermatologische Hilfsmittel*, p. 39) states that 1 to 2% solutions applied as wet dressings work splendidly in acute, vesicular eczema. I have found the 2% alcoholic solution to work well in pityriasis simplex of the scalp.

**KERATOLYTIC.** Although salicylic acid and resorcin are the two best keratolytic agents at our disposal, each acts upon the keratinized epidermis in a radically different manner. Salicylic acid exercises a solvent action, causing the horny tissue to swell, soften, split into scales and exfoliate, while the dermis below is also more or less profoundly influenced. Resorcin acts superficially and causes the horny layer and, in larger doses, the granular layer as well, to become tough, hard and, finally, brittle. Keratinization occurs in the upper portion of the filamentary layer to form a new stratum corneum. The old horny and granular layers separate from the epidermis and are at last cast off, together with the funnel-shaped horny layer of the follicle mouths and such seborrhaic cocoons, comedones and bacteria as these tissues may contain. The skin is thus rendered clean and almost free from bacteria, the follicle mouths are cleared of obstructing plugs, the blood vessels are stimulated into ac-

tivity, congestion is reduced and the condition of the skin becomes more normal.

This action can be produced by ointments containing from 10 to 50%, or those with salicylic acid and sulphur to which 10% of resorcin is added. Large proportions of the drug in collodion (20 to 30%) are sometimes used. The most effective methods, however, consist in applying the resorcin plaster muslin containing 20.0 gm. of the drug per square meter or in using Unna's exfoliating treatment (Schälkur).

Unna (Zur Anwendung der Guttapercha Pflastermulle, *Monatsh. f. prakt. Dermat.*, 1894, xviii, p. 319) states that the resorcin in plaster muslin is very adhesive and durable. Its only disadvantage is the greenish-black color it gives the skin, thus rendering its use suitable only to patients who can remain at home or in a hospital during treatment. It is applied (as a mask, to the face) for ten days, after which the entire horny layer peels off like a glove. Unna's *exfoliating treatment* (*Schälkur*) is described by his scholar, Cornelius Beck (Resorcinschwarten, *Monatsh. f. prakt. Dermat.*, 1897, xxv, p. 601), as follows: A paste consisting of

**R** Resorcini.

Pasta zinci (Unna) aa. .... 10.0

Ichthyoli ..... 1.0

is rubbed into the face morning and evening, after washing with green soap and hot water. In 3 to 4 days, the skin assumes a dry, stiff, tense appearance, like a mask. At this point the paste is discontinued and Unna's zinc varnish (gelatin. alba 30.0, zinci oxydati 30.0, glycerin. 50.0, aquæ 90.0; M. F. gelat.), is applied for 24 hours, after which it is removed with warm water and the horny layer easily taken off with the fingers or forceps, exposing a rosy and tender, but well-formed skin beneath. This method gives highly satisfactory results in seborrhœa of the face, acne vulgaris and rosacea. Neisser (*Versammlung deutscher Naturforscher und Aerzte, in Heidelberg, Monatsh. f. prakt. Dermat.*, 1889, ix, p. 375), believes that while this treatment removes the redness, comedones and greasy appearance of the skin, it alone is not able to cure acne. The exfoliating treatment has also been used for flat warts, superficial pigmentations, disfiguring scars and keloid.

DARIER'S EXFOLIATING TREATMENT (*Therapeutique des maladies de la peau*, p. 126), consists in applying for three successive nights a bandage covering the entire face in the form of a mask (with the usual orifices) with the following:

**R** Tr. Sap. Virid, 20% ..... 40.0

Resorcin.

Sulphur. præcip. aa. .... 10.0

This is allowed to dry on the face, and on the following morning a soothing lotion or cold cream is applied. There is some pain, but for a few

hours on the first night only. The procedure is repeated each night until desquamation occurs. This usually begins on the fourth day, and is complete about four days later.

**REDUCTANT.** As a reducing agent, resorcin is greatly inferior to pyrogallic acid, possessing about one fourth the power of the latter (Unna, *Ichthyol und Resorcin*, Hamburg, 1886, p. 67), and to chrysarobin, but, at least for the treatment of psoriasis, resorcin has greater reducing power than sulphur and ichthyol. While Kellogg's investigations (see above) failed to show noteworthy changes in the dermis of normal skin by resorcin, the alterative action of this remedy when used in sufficient strength is now well known. This action is conspicuous in the results of the exfoliating treatment of rosacea, and when a resorcin ointment of 10 to 20% is used in cases of dry, chronic eczemas with much infiltration. Jackson (*Ichthyol and Resorcin: A Clinical Study of Their Effects*, *Jour. Cutan. Dis.*, 1887, v, p. 215) found that resorcin "exerted a powerful absorptive effect upon new-cell infiltrations." A reducing agent (*i.e.*, one which unites with the oxygen of the tissues), may not necessarily be an alterative, but resorcin possesses both properties.

**CAUSTIC.** Resorcin is a mild and very reliable caustic of superficial action. For this purpose it is used in the pure state as a powder or as a 50 to 75% ointment in the treatment of epitheliomata of superficial character. Stelwagon (*Clinical Notes on the Value of Resorcin, etc.*, *Jour. Cutan. Dis.*, 1886, iv, p. 326) apparently cured one such case with a 40% ointment, but this was without effect in two similar cases. Jaja (*Gior. ital. d. mal. ven.*, 1887, Nos. 1 and 2) obtained a cure in one case and a recurrence in a second patient. He used a 50% ointment until a thick (2 mm.), black scab was produced. Greco (*Monatsh. f. prakt. Dermat.*, 1886, v, p. 79) apparently cured an epithelioma which developed from a patch of eczema by means of a 75% ointment. Ledermann (*Therapeutisches Vademecum*, p. 70) regards the caustic action of resorcin as equal to that of silver nitrate, and states that in addition to its painless effect it rarely produces a scar. Unna (*Ichthyol und Resorcin*, p. 66) used resorcin in only a few cases of epithelioma, and combined it with salicylic acid.

**TOXICOLOGY.** The internal administration of resorcin has been generally abandoned on account of the dangerous toxic properties of the drug. In poisonous doses, it causes vertigo, buzzing in the ears, anxiety, profuse perspiration, collapse and unconsciousness, with subnormal temperature. The United States Dispensatory (19th ed., p. 1056) states that no fatal case due to internal administration has been recorded.

For many years, the use of external applications of resorcin was regarded as free from danger, but within the last ten years at least three cases of serious and even of fatal poisoning as a result of such treatment have been reported. Sigismund Kaiser (*Berl. klin. Wochenschr.*, 1905, No. 33) treated a twenty-nine-year old patient suffering from lupus vulgaris with a 50% resorcin paste. Shortly after, the patient perspired



profusely, experienced great pain, became delirious and fell into convulsions. The paste was removed and the patient recovered consciousness two hours later and, in another hour, voided urine of a green color, which quickly became black. Recovery was complete at the end of four days, but the urine was still slightly colored, although without albumin.

Heinrich Nothen (*Resorcin Vergiftung bei äusserer Anwendung, Med. Klin.*, Berlin, 1908, No. 24), reports a case with similar symptoms in a nineteen-year-old man, following immediately the application of 220 grams of a 15% resorcin ointment. Recovery was complete after several days. Nothen's second case proved fatal: an eleven-year-old boy was treated for pemphigus neonatorum of the head, chest and arms with 3% resorcin vaseline. At 10 P.M. in the evening of the same day the nurse found him dead. The organs of the thorax and abdomen were found at the autopsy to be colored a greenish brown, the blood vessels were filled with a black fluid and the urine gave a phenol reaction.

From the above cases it seems permissible to draw the following conclusions:

1. Resorcin must always be used with caution.
2. The larger the area to be treated the weaker must be the proportion of resorcin used.
3. Under no circumstances is it justifiable to apply even feeble concentrations of the drug to large areas (arm, entire head, leg, etc.), on account of the possibility of absorption.
4. For the same reason—as Nothen advises—resorcin is contraindicated for surfaces largely denuded of epidermis and in children and debilitated individuals.

**RESORCIN DERMATITIS.** Blaschko and Jacobssohn (*Therapeutisches Taschenbuch*, p. 20) claim that idiosyncrasy to the drug is not rare. Jessner confirms this statement (*Dermatologische Heilmittel*, p. 39). According to Unna, resorcin dermatitis (*Behandlung des Ekzems mit Resorcinumschlägen, Monatsh. f. prakt. Dermat.*, 1889, ix, p. 219) is very rare. He saw less than ten such cases in 2,000 treated with this remedy. R. W. Taylor (New York Dermatological Society, Dec. 18, 1894) presented a case of resorcin dermatitis following the use of a 10% ointment. The picture was that of a violent dermatitis. Jackson, Elliot and Klotz observed similar reactions to the drug. Ravogli (*Lancet Clinic*, Sept. 5, 1891) saw four cases of dermatitis resulting from resorcin used in small percentages as alcoholic solutions and ointments. In each he found œdema, vesiculation, intense redness and serous exudation.

**CONTRAINDICATIONS.** Unna (*Resorcinumschlägen, Monatsh. f. prakt. Dermat.*, ix, p. 219) advises against the use of dressings with resorcin solutions where there is much infiltration and crusting. Dreckmann (*Ueber Resorcin, Monatsh. f. prakt. Dermat.*, x, p. 389) advises caution in the use of such dressings with children, while Nothen (see toxicology)

believes resorcin to be contraindicated for the treatment of children and weakly individuals. Where resorcin is used as a caustic or in strong proportions, it should be applied only to small areas at a time. As Unna has stated (*Ichthyol und Resorcin*, p. 72), the effect of resorcin is not always progressive, and its use should be discontinued as soon as it ceases to do good, or it may retard recovery.

INDICATIONS. Resorcin is one of the most efficient remedies at our disposal for the treatment of pityriasis simplex and steatoides, seborrhœa, seborrhœic dermatitis, acne vulgaris and rosacea. For these diseases, it may be used singly or with sulphur and salicylic acid or both. Salicylic acid intensifies its action as a keratolytic.

Resorcin has been used and recommended for the treatment of eczema, intertrigo, lichen planus, erysipelas, sycosis, tinea, favus, lupus vulgaris, lupus erythematosus, verruca, keloid, epithelioma, wounds, abscesses, phlegmons, frost bite, ichthyosis, superficial pigment changes and variola.

NOTE.—The next installment of *Dermatological Therapeutics*, consisting of a discussion of the important drug SULPHUR, will appear in the May issue of *THE JOURNAL*.—Ed.

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## SOCIETY TRANSACTIONS.

### CLINICAL SESSIONS

OF THE

THIRTY-SIXTH ANNUAL MEETING

OF THE

AMERICAN DERMATOLOGICAL ASSOCIATION.

St. Louis, May 23 to 25, 1912.\*

**Lichen Planus Hypertrophicus.**  
Mook.

Presented by Drs. ENGMAN and

Mrs. Lena F., aged forty-nine, married. The patient presented herself for treatment at the Barnard Free Skin and Cancer Hospital nine months ago for an affection involving both legs. The condition had been present for three years. It consisted of hard elevated plaques, varying in size from a penny to a dollar. The surfaces of all of them were verrucous. They were deeply pigmented, some of them being dark blue, others dark brown, and involving the entire surfaces, especially the anterior and lateral aspects of both legs. They were sharply defined and

\*The clinical meetings were held at the Barnard Free Skin and Cancer Hospital and at the Washington University Hospital.

not inflammatory. They had not increased nor decreased in size during the past six months, and during her course of treatment in the clinic, no new lesions had appeared, nor had there been any improvement under internal medication of mercury and arsenic; external reducing agents and X-ray treatment had also proved unavailing.

**Peculiar Pigmentation of the Leg.** Presented by Drs. ENGMAN and Mook.

S. P., aged thirty-one. The patient was presented to show peculiar pigmented lesions on the anterior surfaces of the lower thirds of both legs; they consisted of light brown and bluish-brown pigmented superficial cicatrices. He stated that the lesions began to appear about a year ago; they began as a small red, slightly infiltrated plaque with slight, if any, subjective symptoms, requiring from two to three weeks to develop, then slowly subsiding, leaving the peculiar pigmented lesions. Occasionally one of the larger lesions presented a superficial ulceration requiring several months to heal. The speakers had had about eight of these cases and in all of them the history and course had been exactly similar; they were apparently a mild endophlebitis, and in one or two had been so severe as to suggest a small localized gangrene; they were apparently different from Schamberg's progressive pigmentation of the extremities.

**Pityriasis Rubra Pilaris.** Presented by Dr. Mook.

The patient was a girl, eighteen years old, who had been under treatment since July, 1910, and had been getting thyroid extract. At first, only her neck was involved; afterwards, her hands and face. Under thyroid she improved very much, but she could not take more than one-fourth or one-half grain of thyroid without producing heart symptoms.

A. K., aged eighteen, single, a private patient, had been under observation for the last twenty months. She appeared for treatment in July, 1910. Her early history was unimportant. In December, 1909, the present eruption began to appear around her mouth and spread slowly and continuously ever since. Upon first examination, the eruption consisted of an erythematous, thickened, scaly condition involving the face, neck and upper half of the trunk, arms, forearms and hands. On the middle of the abdomen, at the periphery, a spreading, confluent, inflammatory process could be seen; the primary lesions consisted of a small keratotic, follicular papule, and upon close examination it could be seen that the involvement and coalition of these papules formed the scaly, inflammatory process. Upon the back of the neck and the backs of the fingers could be seen the typical keratotic, follicular openings with the small, broken hairs. The eruption was not very pruritic, and she complained only of occasional headaches and pains in the fingers. She

had never had any chills, but said she thought she had fever a great deal of the time. She was given capsules containing 2 gr. of extract of thyroid gland three times a day and a mild tar ointment. Her improvement was almost immediate, so that by October the skin had recovered entirely except for a patch on the middle of each arm; a patch in the middle of the back, between the scapulæ; two patches on the back of the neck, and two on the chest. In December, five months after the beginning of the treatment, her pulse had increased to 120. She was extremely nervous, nauseated at times, and the thyroid was discontinued. She was then given Asiatic pills; but in a month the papules began to reappear, rapidly coalescing to form the confluent patches. The arsenic was discontinued, and the thyroid gland given in 1 gr. doses. The effect was immediate, and the lesions began to clear again. After three months the pulse became rapid again; she had nausea and complained of dizziness. The dose of thyroid was then reduced to a half grain, which she seemed to stand very well. Each time the thyroid was discontinued there would be a relapse within ten days to two weeks, and upon the readministration of the drug, improvement ensued almost immediately, though it had been impossible to cure up quite all of the patches. The skin of the extremities and the face and practically all of the trunk would become perfectly normal, leaving absolutely no trace of the former lesions, but there would always be an occasional patch, the size of a dollar, situated on the chest or on the back. During the last six months she had not been able to take the thyroid over a period of more than ten days or two weeks without producing thyroid symptoms. At the time of presentation she had not been as well as before. She had had the various tonics and iodine, and during the last month she had been taking  $\frac{1}{32}$  of a grain of bichloride of mercury three times a day, and had shown considerable improvement within the last two weeks.

DR. CHARLES J. WHITE said he had seen one very acute case, with intense itching, and as the patient could not tolerate thyroid extract, the protoiodide of mercury was given, with satisfactory results.

### **Lymphangioma Circumscriptum: Recovery Under X-ray Treatment.** Presented by Drs. ENGMAN and MOOK.

Dante F., aged twelve, family history negative. The patient presented himself for treatment at the Barnard Skin and Cancer Hospital for a lesion about 12 in. long and 8 in. wide, involving the right hip, following the crest of the ilium; it consisted of a crusted, scaly and vesicular, mildly inflammatory patch, which had begun seven years previously. During the past year, his mother stated, the lesion had doubled in size and was growing rapidly. A small section was excised from the periphery of the patch and the clinical diagnosis was confirmed by microscopical sections. They showed in the central part dilated lymph spaces, which in some places involved portions of the epithelium; in

some sections small lymph lakes were seen only in the corium. There were collections of mononuclear leukocytes in some of these spaces. The lesion presented considerable secondary infection at first, which soon cleared up under mild, soothing antiseptics. He was then given X-ray treatment two and three times a week, and at the time of presentation there were very few traces of the lesions remaining.

DR. ORMSBY said that about six or seven years ago he had a similar case, which improved under radiotherapy. In his case, however, the lesions, which were very much larger than in this instance, were located in the axilla.

DR. HARTZELL said he was reminded by Dr. Knowles that a few years ago they had a case of lymphangioma circumscriptum which made a complete recovery under the X-ray treatment.

**Erythema Nodosum.** Presented by Drs. ENGMAN and MOOK.

Louise G., aged twenty, single, presented herself at the Barnard Free Skin and Cancer Hospital for treatment for about a dozen lesions on the anterior and lateral surfaces of the lower half of both legs. The affection had lasted for five years continuously. Upon examination there were found a number of deep-seated, hard, some of them boggy, lesions in the areas mentioned. They were in various stages, varying from a small erythematous nodule, the size of a hazel-nut, up to tumors the size of a guinea egg—the primary lesion being a small erythematous nodule, becoming hard, later softening in the centre, then hardening again, and finally becoming absorbed without ulceration, and quite a few of them leaving pigmented, hardened, depressed scars. The color of the skin over the lesions varied from a bright red to dark bluish-red, and much brown discoloration. They appeared singly and not in crops. She was a strong, robust girl and apparently in perfect health. The urinalysis and blood counts were normal. The Wassermann and von Pirquet reactions were negative.

**Factitious Urticaria.** Presented by Drs. ENGMAN and MOOK.

Mrs. A. L., aged forty, married. The patient presented herself at the Barnard Skin and Cancer Hospital for treatment for lesions scattered over various portions of the body. They consisted, in the main, of keloid-like papulo-tubercular lesions, and quite a few of them showing deep ulcerations. On the left elbow and knee were two small, sharply defined ulcerations  $\frac{1}{4}$  in. in diameter, and a few larger ulcerated lesions scattered over the shoulder. She stated that when she was nineteen years of age she "learned about the burning qualities of nitric acid" and attempted to burn off about a dozen moles on her face. She did not touch the nitric acid again until about three months ago, when she noticed a burning sensation in a mole on her thigh. Since burning the one on the thigh, she has been applying the acid to various scars over

her back. She stated that the lesions began to pain and finally the pain became so severe that she had to apply the acid to all of them for relief. Ulceration resulted, and a repetition of the application was required at least once a month. She stated that the relief from pain in the lesion with nitric acid was absolutely necessary and many times had attempted to omit the application, but so far had been unsuccessful. She denied sexual influence and was a mother of four children.

**Peculiar Pigmentation of the Leg, at First Supposed to be Pellagra.** Presented by Drs. ENGMAN and MOOK.

The speakers presented a woman of sixty with a peculiar dermatitis on the arms and legs, together with some atrophy, the whole condition being somewhat suggestive of pellagra, except for the appearance of the legs, which was more of that of a staphylococcus dermatitis. There was no history of pellagra and the case was presented to call attention to the similarity of some of the skin symptoms of other conditions to that of pellagra.

Dr. ORMSBY called attention to the atrophic condition of the skin of the fore-arms and legs, with scleroderma-like areas on the latter. The peculiar reddish discoloration was very similar to that observed in several cases seen which were really a form of atrophy of the skin. Dr. Fordyce had shown a similar case before the International Dermatological Congress, which subsequently proved to be one of syphilis. The speaker said he had seen the same condition in two other patients.

Dr. HOWARD FOX agreed with Dr. Ormsby that the case was one of atrophy of the skin. He thought it should be called a diffuse idiopathic atrophy, a condition that was often associated with a certain amount of scleroderma, especially upon the dorsum of the foot. He did not think it was pellagra.

Dr. GRINDON thought the case was one of mixed scleroderma. He called attention to the patch of scleroderma on the knee, with horizontal striæ, and the violet discolorations on the soles of the feet. A diffuse atrophy, to which Dr. Fox had referred, might enter into the picture of mixed scleroderma, the latter disease presenting a wide variety of clinical manifestations.

Dr. RAVOGLI said he was disinclined to accept the diagnosis of pellagra in this case. The patient stated that this condition had existed for fourteen years, which was a longer course than we would expect in pellagra. In that disease we sometimes may see atrophic areas of skin following the erythematous lesions, but they differed in appearance from the diffuse atrophoderma which was present in this case.

**Alopecia Areata.** Presented by Drs. ENGMAN and MOOK.

The coincident occurrence of alopecia areata and mild albuminuria, with hyaline casts, was shown in a boy of twelve.

This case was of interest as there had been three attacks of alopecia areata coincident with symptoms of an acute nephritis. Each time that

the albuminuria occurred, there was an exacerbation and new spots of alopecia.

**Acne Varioliformis.** Presented by Drs. ENGMAN and MOOK.

The patient was a woman of thirty, with acne varioliformis which was improving very rapidly under the use of staphylococcus vaccines. She was presented to show the curative effect of staphylococcus vaccine upon this disease.

Dr. WINFIELD thought that, with the introduction of the staphylococcus vaccines, a number of our so-called tuberculides would have to be placed in a new classification.

Dr. KNOWLES said he recently saw a case of dystrophy of all the nails of the hands and feet, together with complete alopecia areata, a deformity of the lower jaw and fibrous nodules in the ears.

Dr. ORMSBY said that in two cases of tinea of the nails affecting both hands and feet that had come under his observation he had resorted to various methods of treatment, without resulting improvement. Even after removal of the nails and cauterization of the nail-beds, the disease recurred with the re-growth of the nails.

Dr. RUGGLES said that in one case of tinea affecting all the finger nails except two his treatment had been without any success. This patient, about once or twice a year, had an attack of ringworm of the face and neck, which yielded promptly to treatment, but the affection of the nails was more obstinate. The condition was now of about four years' standing.

**Raynaud's Disease.** Presented by Dr. GRINDON.

The patient was forty-three years old, but looked at least ten years older. He formerly drank heavily and had arteriosclerosis. He had a penile sore at twenty-one, followed by mild general symptoms of uncertain character; he took mercury by mouth for two months only. In August, 1911, he began to have attacks of local asphyxia of the fingers of the left hand. He presented a dry gangrene of the last phalanx of the left index finger, with a similar condition beginning at the tip of the third finger. The right hand was not involved. He gave a feeble positive Wassermann reaction.

**Precocious Syphilis Treated with Salvarsan.** Presented by Dr. GRINDON.

The patient had an initial lesion last February. In April he developed a number of large, gummous ulcers on the trunk and the extremities, with iritis. Salvarsan produced a rapid improvement in the symptoms.

**A Change in the Hair from Straight to Curly.** Presented by Dr. GRINDON.

The patient was a curly-haired, blond young man, aged twenty. He had been under the speaker's observation since birth. His hair had

been quite straight until the age of fifteen, when within a few months and without any preceding or accompanying disturbances of general health, it changed to the condition shown at the time of presentation. The father's hair and one sister's hair was straight; the mother's hair and another sister's hair was curly. They were Italians.

DR. HARTZELL recalled the case of a girl who, up to the age of sixteen, had perfectly straight hair. She then had an attack of typhoid fever and lost her hair, and when it grew in again it was extremely curly. Unfortunately, she was induced to have her hair cut, and the next crop was stronger, but perfectly straight.

DR. CHARLES J. WHITE said he did not think it was uncommon to see these changes occurring in the hair.

DR. ORMSBY mentioned the case of a boy, three and a half years old, who lost his hair during an attack of typhoid fever, and when the hair came out again it was a mixture of black and gray, like the hair of a person of advanced life, giving the child a very peculiar appearance. In texture the hair was coarse.

#### **Atrophia Maculosa Cutis.** Presented by DR. GRINDON.

The patient presented dime-sized, atrophic, white spots on the back, chest, abdomen and hip. There was some irregular, diffuse hyperpigmentation of the trunk, with small, leucodermic spots. There was an ill-defined patch of leucoderma on the left side of the neck, with a surrounding zone of hyperpigmentation. The condition had existed for twelve years; some of the spots were recent. There was a doubtful history of syphilis; the Wassermann reaction was negative. He formerly complained of articular pains, but recently his health had been good. Similar cases have been recorded by Heuss, Jadassohn and others.

#### **Hereditary Syphilis.** Presented by DR. R. H. DAVIS.

The patient, W. M., aged sixteen, visited the St. Louis Children's Hospital, in January, 1912. He presented a very severe general adenopathy, cervical, axillary and inguinal. The anterior cervical glands were as large as hens' eggs, but showed no disposition to break down. There was considerable œdema of the cheeks and eyelids, especially on the right side. The uvula and part of the soft palate had been destroyed by a destructive ulceration five years previously. He had a severe hydrocele on the right side. The blood examination was negative, as was the urine. The Wassermann was strongly positive. The family history showed that the father had contracted lues about one year before the birth of the patient. An older sister was healthy and the mother showed no signs of syphilis. Unfortunately, a Wassermann test was not obtained on her. The patient was born apparently healthy, except for the adenopathy which was by no means so marked as at the time of presentation, but it was persistent. At the age of nine, a severe inflammation of the eyes occurred from which he recovered. At the age of eleven



the severe ulceration of the throat occurred, which yielded to mercury and potassium iodide. The hydrocele began two years ago and had been tapped three times, but always recurred. Vigorous mercurial inunctions and 20 drops of a saturated solution of potassium iodide, in the last six months, had produced marked improvement in the adenopathy, but it recurred when this treatment was discontinued. Treatment with mercury and potassium iodide had had no effect on the hydrocele, or to prevent its recurrence after tapping. The heart and lungs were normal. The liver and spleen were enlarged. The general strength was much improved since the mercurial treatment and the patient was able to work as an errand boy.

**A Case of Sporadic Cretinism.** Presented by DR. A. C. KIMBALL.

The patient was a boy, aged five years. On the father's side of the family there were no cases of goitre. All four grandparents were born in Germany. The mother's parents went to Belleville, Ill., about fifty years ago and resided there until death. They always drank spring water. The father was thirty-six years of age and in good health. The mother was thirty-three years of age and had well-marked simple goitre. Two sisters of the mother had goitres. A daughter of one of the mother's sisters had a very large goitre.

This child weighed  $12\frac{1}{2}$  pounds at birth and was nursed but six weeks. When the boy was very young the mother noticed its complexion was an unnatural yellow color. Dentition was normal. The patient could not sit up alone until he was two years of age. He cried a great deal and was always rather constipated. He spoke his first word at the age of four.

The mother realized that the child was not normal and took him to a physician when eight months of age. He was treated until three years of age. He grew brighter, his strength improved and he appeared to be more intelligent. He had had no medicine for the past two years.

Inspection showed a short, broad figure, thick, spade-like hands and feet and a greenish-yellow complexion; a loose, dry, scaly skin; a dense myxœdematous feel to the tissues below the skin; a hypertrophied, protruding tongue; a dull, somewhat idiotic expression; short, coarse, thin hair and a scaly scalp. There was a patch of scaly eczema upon the left cheek. The thyroid could not be palpated. Height, 34 inches; weight, 32 pounds; compared to normal for five years, 40 pounds; height, 41 inches. There were thick shoulder pads in the deltoid region; the belly was prominent; the lips thick; nose sunken at the root; small eyes, stolid, expressionless face.

Physical examination showed normal urine. The lungs were normal. Mitral murmur in systole was present. The abdominal organs were normal.

Treatment consisted of extract of thyroid gland, gr. i, three times daily.

DR. ENGMAN said that for several years they had been making observations on the relationship of the thyroid to various diseases of the skin. He did not refer to the frank manifestations in myxœdema, but to cases where the thyroid secretion was only slightly deficient, as, for instance, in certain cases of pityriasis rubra pilaris; also in certain types of eczema and keratosis, almost bordering upon ichthyosis simplex.

DR. PUSEY said he had been trying to discover anomalies of secretion due to hypothyroidism as a factor in various dermatoses, and his own observations did not agree with those of Dr. Engman. Excepting in myxœdema, his experiments with the use of thyroid extract in skin diseases had been practically a failure. It was very similar to his experience in trying to associate divergences from the normal in the coagulation of the blood as a factor in certain skin diseases. In both of these fields of investigation, his experience had been equally unsatisfactory.

DR. WILLIAM W. GRAVES, of St. Louis, said that a few years ago he saw a woman who presented symptoms of hypothyroidism. Under the influence of thyroid extract there was some improvement in her symptoms, not only in those of a subjective character, but in the thickening of the skin as well.

DR. ENGMAN said we knew very little about these cases of incomplete thyroid. In some of these cases we found small patches of eczema on the arm, and when associated with hypothyroidism, the skin lesions would often rapidly disappear under proper treatment.

DR. JACKSON said he thought thyroid extract was of value in certain dermatological conditions. In myxœdema, accompanied by loss of hair, he had seen several cases in which the hair returned after the use of thyroid extract. In one or two of them when the administration of the thyroid was stopped the hair fell out, to grow in again when the taking of the drug was resumed.

DR. WINFIELD said that in certain cases of myxœdema with peculiar patches of thickening of the skin, he thought the use of thyroid extract was of value. He recalled such a case in a boy with patches of thickening on the back of the neck and over the clavicle. Under the use of thyroid, these lesions rapidly disappeared, only to recur when the thyroid was discontinued.

DR. GRINDON said he was of the opinion that thyroid extract had some effect in psoriasis, even in cases where the patients were not put to bed or hospitalized. Still, in many cases, the results of the thyroid were disappointing, and in the acute stage of psoriasis it aggravated the disease.

DR. POLLITZER said that those whose therapeutic memory went back to the late '80s, when thyroid extract was first introduced, would find that history was repeating itself. At that time thyroid was supposed to cure almost everything, and now the drug again was recommended in all sorts of conditions, often, apparently, with wonderful results. There was no question, the speaker said, about the value of thyroid extract in hypothyroidism, and when we had symptoms of myxœdema, the drug was of course indicated, but it seemed to him a trifle belated to start again, after twenty years, to recommend the use of thyroid in all sorts of dermatological conditions. At the morning session a case of pityriasis rubra was shown where marvelous improvement had followed the use of thyroid extract. Personally, Dr. Pollitzer said, he had treated pityriasis rubra with thyroid without benefit, and he had seen cases where the lesions disappeared temporarily with no treatment at all. He regarded thyroid extract as indicated when there were

symptoms of hypothyroidism, and if we had skin lesions due to that condition, we could use it rationally.

Dr. MOOK said he had seen two cases, a brother and sister, who presented these myxædematous patches of dry, scaling skin on the neck and forearms, which had persisted for about fifteen years. The lesions resembled a true seborrhœic eczema, and both recovered entirely after about six months' treatment with thyroid extract.

**Nævus Unius Lateris.** Presented by Dr. R. H. DAVIS.

The patient, Miss R., aged twenty-six, came under observation March 24, 1912. She presented a chain of small growths, intradermal and subcutaneous, situated on the right side of the neck. These growths were most numerous about two inches below the right ear, but extended back to the mid-line, ending abruptly at this point. The size varied from a pinhead to that of a large pea, the larger being close to the mid-line behind and subcutaneous. The color varied from flesh color to bluish and the patient reported that at times there was a reddish tinge. In front, the growths became smaller and appeared as minute, bluish points over the inner end of the right clavicle, and the condition reappeared as a faint blue line, half an inch long, just to the right of the mid-line of the manubrium. One of the larger growths was excised and submitted to Dr. C. L. Klenk, who returned a report of small round cell sarcoma. The patient said that these growths had been present since early childhood and had not increased in size, nor had new ones appeared in the last ten years. These statements were corroborated by the patient's mother.

Dr. WINFIELD said that for the past two years he had been studying this type of tumor, benign and malignant, and he was greatly surprised that in about 90% of the cases the pathological report came back that they were small-celled sarcoma. If that were so, why did not these patients die instead of living indefinitely in spite of these growths?

**Case for Diagnosis.** Presented by Dr. GRINDON.

The patient was a young girl in excellent general health. The lesions had commenced at the upper part of the chest at the age of five, and had slowly spread until they formed a patch about three inches each way, with its upper border at the suprasternal notch. It was made up of flat, white, pinhead-sized, uniform, firm lesions, barely if at all raised above the general level of the skin. At the central part of the patch the lesions had coalesced into a continuous sheet. Toward its periphery the patch presented irregular projections, enclosing some round areas. At the extreme edge there were groups of four or six confluent lesions.

Dr. SCHALEK said he had a case similar to this under his observation at the present time. The patient was a girl of eighteen who had had this trouble since she was two years old. The eruption was confined chiefly to the neck and arms,

the lesions being in the shape of flattened papules, showing a slight depression. There were no follicular openings. The lesions were whitish in color, some of them having a linear arrangement; they did not enlarge; there was no itching. Dr. Schalek said he first regarded the case as one of lichen planus, then scrofuloderma and now he looked upon it as a *nævus linearis*.

DR. HARTZELL said he had seen few similar cases, and he was willing to confess his inability to make a diagnosis. He looked upon it as a form of degeneration of the skin, and he did not think that anything but careful biopsy studies would enable one to express an intelligent opinion regarding the nature of the affection.

DR. GRINDON said these lesions had increased in number and were arranged so that they presented a continuous morphea-like surface, with outlying lesions. Each lesion presented a tiny central depression which seemed to coincide with a follicular orifice. A biopsy had not been permitted. The speaker looked upon the lesions as minute fibromata about the sebaceous orifices.

### **Generalized Angioma.**      Presented by Drs. ENGMAN and MOOK.

C. A., aged six, was a patient who presented herself for treatment two years ago. The mother stated that the trouble had existed since birth. She was a well-nourished, well-developed child, in perfect health. Inspection of the anterior surface of her body revealed a peculiar red flushing of the skin of the arms, forearms, thighs, legs and feet. The upper left quadrant of the chest and the lower right quadrant of the abdomen presented the same peculiar angiomatous appearance; the right quadrant of the chest and left quadrant of the abdomen were entirely free and the skin was perfectly normal in color; the skin of the face and neck was normal. The posterior portion of the body revealed the same angiomatous appearance involving, however, only the arms, the forearms, the buttocks and the outer half of the legs and thighs, the inner half being normal. Both feet were quite large, resembling somewhat an acromegaly, the second and third toes on each foot being larger than the big toe; the hands were much larger than normal, the second and third fingers of both hands being quite enormous; the toes and fingers were all larger than normal and not symmetrical in size; the skin over the involved areas was apparently normal to the touch, though on the hands and feet it had a puffy feel, but was not œdematous. Clinically, the affection seemed to involve the capillaries, apparently consisting of a dilatation, for when she was put at rest, with the feet and hands elevated above the head, most of the color disappeared, though not entirely.

### **Epidermolysis Bullosa Existing Since Birth.**      Presented by Drs. ENGMAN and MOOK.

C. C. A., aged twenty-six, a private patient, consulted the speakers five years ago, for an eruption consisting of large and small bullæ on various portions of the body, but most marked upon the palms. His

mother told him that a few days after birth she noticed a few blisters on his feet and these had been recurring ever since. He volunteered the information that the bullæ were invariably the result of trauma and that he frequently had bullæ over his back and shoulders, caused by friction of his suspenders. The lesions were also present most of the time upon his legs from pressure of his garters, and around his ankles when he laced his shoes too tightly. The degree of trauma determined the contents of the bullæ. There were no cicatrices or milium-like cysts; the nails were slightly dystrophic and irregular and showed some pitting, but only to a slight degree; there was no alopecia. Upon his first visit, his forearm was rubbed severely with a rough towel, and in one area the epidermis was detached, leaving an oozing, denuded surface; upon the other areas small bullæ appeared within fifty-five minutes. He had always enjoyed splendid health, and stated that no member of his family, on either side, had suffered from a like affection. A small section of apparently normal skin was excised; also one of the small experimental bullæ. The microscopical examination of the normal skin revealed a very slight œdema of the epithelial cells, the only pathological condition present being a somewhat marked absence of elastic tissue in the papillary portion of the corium. There were no evidences of degeneration of the basal epithelial cells; the bulla showed practically the same changes except a separation of the epithelium from the corium—the bulla containing serum, a few red blood cells and leukocytes. His condition had remained unchanged.

DR. SCHALEK said that this patient had made the statement that these lesions disappeared in winter and were only present in warm weather. This suggested a *hydroa æstivalis*.

#### Case for Diagnosis.      Presented by Drs. ENGMAN and MOOK.

Dr. Engman said that this case had been under observation for several months, and that microscopic studies of the lesions were being made. It was apparently some form of degeneration of the skin.

F. E. K., a private patient, aged twenty-five, single, occupation farmer, presented himself in March of 1911, for treatment for an eruption involving the entire face and the wrist. He had always enjoyed splendid health except for the trouble on his face. He stated that the eruption had appeared when he was three or four years of age and had been present continuously ever since, getting better in the Summer months (July and August usually), but worse again when Fall appeared. An examination of his face revealed a slightly scaly thickening of the entire skin with a few normal areas intervening; in these normal areas could be seen a few small papules. The eruption was most marked over the lower two-thirds of the face. The lips, including the muco-cutaneous surface, the nose and the wrist were especially thickened; the skin was hard and it had a "leathery" feel. The edges of the ears showed many

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small papular nodules with scaling, but there seemed to be very little atrophy. There were many excoriations on the cheek, though he stated that the eruption was not pruritic. The color of the skin was slightly brownish, as though he had been tanned by the elements; there were little or no signs of inflammation. He stated that he had occasionally noticed blisters, though in the last fourteen months none had been observed by the speakers. A small section was excised for histological examination and a few slides were made, though not an exhaustive study. The few sections examined showed a slight inter- and intra-cellular œdema of the epidermis; there was slight infiltration of small lymphocytes in the papillary pegs, with some dilatation of the capillaries and apparently cloudy swelling of the connective tissue fibers. Strange to say, the epidermis showed very little, if any, thickening and no acanthosis, though many of the papules resembled small rodent ulcer pearls.

DR. ZEISLER thought that this was one of the most interesting cases that had been shown. While he did not care to venture a positive diagnosis, it suggested a lymphodermia tuberosa.

DR. GRINDON said that the cursory examination he had given the case suggested a hydroa æstivale, so-called. We had perhaps been a little too dogmatic in limiting the seasonal incidence of this disease and he thought that this case could be classed as one of hydroa, although not of the æstival type.

*(To be continued.)*

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### REVIEW OF DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York.

Assisted by

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#### DERMATOLOGISCHE WOCHENSCHRIFT.

(Dec. 21, 1912, iv, No. 51a.)

Abstracted by FRED WISE, M.D.

Concerning the Production of Valvular Lesions and Aortic Aneurysm through Syphilis. LYDIA GOLDBERG, p. 1539.

This lengthy contribution divides itself into two parts; the first half of the paper deals with the historical aspect of the subject, from the year 1845 to the

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present day. It contains a remarkably complete list of references to the literature. The second half is devoted to a presentation of the case histories of thirty-seven patients from the medical clinic of Eichhorst at Zurich, with valvular and aortic lesions, in whom serological tests were carried out during a period of three and a half years. Of these thirty-seven cases, twenty-one showed positive and sixteen negative Wassermann reactions. The highest percentages of positive Wassermann reactions occurred in the cases of aortic aneurysm, then came valvular lesions combined with tabes, and lastly, the cases of aortic insufficiency. Syphilis seemed to play a negligible part in the ætiology of the purely mitral lesions.

(*Ibidem*, Jan. 4, 1913, lvi, No. 1.)

**The Chemistry of the Skin. Tenth Instalment: Concerning Granoplasma and a General Method for the Microchemical Determination of Albuminoid Cell Components.** P. G. UNNA and L. GOLODETZ, p. 1.

Granoplasma is an albuminoid substance existing in most cells, especially in the larger types; it is an acid albuminoid and it is possible intensively to stain the cell-body with a basic stain. It always occurs in the skin in the non-horny epithelial layer, in the prickle cells of the hair follicles and in the germinal cells of the sebaceous and sweat glands. The more intensively these cells stain with methylene blue and pyronin, the more granoplasma do they contain. In the spindle cells of the connective tissues, this substance is normally very scarce or altogether absent, but its amount increases in all inflammatory processes and in hypertrophic conditions; thereby the little spindle cells swell up into spherical bodies—plasma cells. The large spindle cells (fibroblasts) in the more fibrous hypertrophies become enormously swollen through the augmentation of the granoplasma, but do not assume spherical shapes; they split up into spherical or cuboidal plasma cells or disintegrate into rows of such cells.

In this article the authors describe the chemical nature of this body, which is of great interest from a chemical, anatomical and histopathological standpoint. The contribution is too lengthy and the subject matter too involved to permit of a satisfactory abstract.

**Concerning the Sensibility of Pointed Condylomata.** ARTHUR FONTANA, p. 17.

The author carried out a series of experiments and tests on fifteen patients with condylomata acuminata, to decide the much-discussed question whether or not these bodies are supplied with nerve filaments and nerve endings. The result of his work was to prove that the pointed condylomata are sensitive to the touch, temperature and pain sense, although not in the same degree as the normal skin, and that therefore there can be no doubt as to their being supplied with nerve filaments and nerve endings.

**The Ethical Effects of Segregation of Prostitutes.** KATHARINA SCHEVEN, p. 22.

Not adapted to abstracting.

(*Ibidem*, Jan. 11, 1913, lvi, No. 2.)

**The Significance of Salvarsan and Neosalvarsan in the Treatment of Syphilis.**

JOHANN ALMKVIST, p. 41.

The author discusses the views of various authorities regarding the use of salvarsan and neosalvarsan, combined with or without the use of mercury, in the treatment of syphilis. In recent cases he has attempted the "abortive" treat-

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ment, in two ways. 1. Cases in which it was desired to bring about a rapid influence upon the *spirochætæ pallidæ*, within a short space of time; these patients received eight graded doses of salvarsan within a period of thirty days, amounting altogether to 4.0 grams; or eight doses of neosalvarsan, equivalent to 7.3 grams of salvarsan. 2. Cases in which energetic treatment was given from the beginning of the treatment, but extending over a longer period of time, with smaller doses, with the object of bringing about an uninterrupted action upon the *spirochætæ pallidæ*. His reason for employing the second method is as follows: The *spirochætæ* are known to be very scarce in the blood stream and that they occur chiefly in the tissues, differing in that respect from the malarial and other parasites. Hence it is to be assumed that a remedy whose anti-parasitic action takes place in the blood and in the tissue-fluids, no matter how powerful it may be, requires a certain length of time to affect parasites existing in the tissues themselves.

The reason why mercurial treatment can not produce a rapid destruction of the organisms is, that a *strong* mercurial treatment can not be administered uninterruptedly, so that periods without mercurial treatment must be permitted, during which time the organisms have time to "recuperate." Should the mercury be administered continually, the doses must be so small as to prevent toxic effects, and are therefore too weak. If it were possible to influence the *spirochætæ* during the pauses in the mercurial treatment, the length of time required to bring about a cure of the disease would probably be greatly shortened.

The abortive cure of the disease would be comparatively easy, were it possible to begin the treatment before the organisms have time to enter the tissues; for this reason, all authorities insist upon attempting the abortive cure at the earliest possible moment, in the primary stage. But even at this early stage certain tissues have become impregnated with the organisms, namely, the chancre and the lymph glands; and it seems likely to the author, that it is just as difficult to eradicate the *spirochætæ* from these two localities, as it would be from a number of additional regions. It is of little significance if the organisms have become localized in a few or in a number of tissue areas, so long as they have not become too deeply impregnated into them to permit of the prompt effect of the remedies applied against them. In the secondary efflorescences, the organisms are probably not as deeply situated in the tissues as they are in the initial lesion, for, if anything, they are younger. The chancre, in some cases, may be destroyed or removed surgically, but to employ the same drastic measures against the lymph glands would be hardly feasible.

When the organisms have become disseminated over the entire body, it is likely that a certain number of them become sequestered and hidden in certain localities, requiring a longer time for their eradication; but the same holds good for the organisms within the chancre and the lymph glands, these also requiring protracted treatment to bring about their destruction. In the exanthematous stage, there exists a progressive immunity, thereby aiding in the treatment of the disease; the author concludes, therefore, that it makes little difference whether the abortive cure is commenced in the primary or in the secondary stage, as even during the primary stage it is not advisable to shorten the time of treatment.

The author's second type of "abortive" cure is planned to conform with the above observations. To bring about a more constant medication, he combines salvarsan with mercury, the latter in the shape of oleum mercurioli. The first salvarsan injection is given as soon as the diagnosis is made, and the first mercurial course consists of seven injections of oleum mercurioli, 45% strength, 0.10 to 0.15 cc. at a dose, every five days. This course requires thirty days. After a pause of six to eight weeks, the same process is repeated; during this period of three and a half to four months, the patient receives eight intravenous injections of salvarsan, in doses of 0.4 to 0.6 mg. each. If no contraindications exist, the first injection of salvarsan is given as soon as the diagnosis is established and the



others are administered at intervals of four days; during the first mercurial course, only four injections of salvarsan are given, as later, sufficient mercury is being absorbed to suffice producing a powerful effect upon the *spirochætæ pallidæ*. The subsequent salvarsan injections are given after some of the mercury has been eliminated from the system, about four weeks after the end of the mercury course. Then the four remaining injections of salvarsan are so distributed that the last one is administered after the second course of mercury has been begun. This form of treatment is advised in recent cases, up to the period of the secondary eruption, but is not used in recurrences.

A series of six tables shows the effect of treatment and the result of the Wassermann test in cases treated with salvarsan alone, those treated with salvarsan and a single mercurial course, salvarsan with two mercurial courses, neosalvarsan alone, and neosalvarsan with one and with two courses of mercury. In the comparison of cases receiving salvarsan alone and neosalvarsan alone, it was found that the newer preparation seemed to be more efficacious. With freshly distilled water, the writer has seen no untoward results from the use of salvarsan, with the exception of a few cases of cyanosis, erythema and urticaria. None of the patients treated with the combined salvarsan or neosalvarsan and mercury methods has shown any recurrences up to date. The author concludes that the method of choice lies in the combined treatment.

#### DERMATOLOGISCHE ZEITSCHRIFT.

(July, 1912, xix, No. 7.)

Abstracted by PHILIP FRANK SHAFFNER, M.D.

#### The Casuistry of the Rarer Nail Diseases. The Pathogenesis of Onycholysis. JULIUS HELLER, p. 609.

Heller again advocates the use of the term onychomadesis for those conditions of the nail characterized by a falling out or falling off of the nail, arising from all the possible causes for the same. He uses this term as synonymous to "de l'ongle" of the French. Heller believes that the term onychoptosis is undesirable because of the use of the word ptosis is put to in our pathological nomenclature as related to the viscera, eyelids, etc. Heller separates the condition onycholysis from onychomadesis, giving the former name to that process which results in a loosening of the nail from the nail bed and also from the fold, without this separation arising from the pathological process of a pure mechanical nature, as in acute or chronic processes involving the nail bed and producing a nail separation. Heller describes a case of onycholysis partialis in a young woman twenty-seven years of age, who suffered from a hyperidrosis of the hands for five years. The nail plates were loosened, starting at the free border, and became detached until only several millimetres of nail remained. As soon as this stage was reached in all the nails the nail plates became normal again. The feet were also hyperidrotic, but no such condition of the nails of the feet was present. Heller is of the opinion that the hyperidrosis was partly responsible for these nail changes, although in another case occurring in a healthy, vigorous man, who had no abnormality of the sweat secretion, the same nail changes were observed.

#### Contribution to the Pathology of Dermatitis Papillaris Capillitii (Kaposi), Folliculitis Nuchæ Sclerotisans (Ehrmann). W. SCHMIDT and F. WAGNER, p. 581.

From the examination of serial sections of two cases of the above condition, one early, the other more advanced, the authors maintain that the process is not

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a peri-follicular inflammation of the cutis (Kaposi), but is based on an acute inflammation of the hair follicle, that the sebaceous glands are not foremost involved but that the folliculitis and perifolliculitis make up the important part of the disease. Schmidt and Wagner agree with Ledermann in his description of the four stages of the process. These stages which often merge into one another in the same specimen are as follows:

(1) Folliculitis. (2) Plasmon stage (plasma cells). (3) Connective tissue stage proliferation. (4) End stage (keloid).

In brief, they find in accord with some observers, but contrary to others:

(1) A parakeratosis of mild degree with a thickening of the stratum corneum especially at the openings of the hair follicles.

(2) A folliculitis with a broadening of the rete pegs adjoining the hair follicles.

(3) A destruction of the papillæ of the infiltrated areas.

(4) Dilatation of the vessels of the pars papillaris.

(5) Infiltration, consisting of (a) mononuclear round cells, stained deeply; (b) mast cells; (c) plasma cells ("Plasmonbildung" of Joseph). The infiltration is peri-follicular and perivascular in early cases, but especially intense about the vessels in the later stages. In the later stages the folliculitis consists of newly formed connective tissue cells.

(6) Elastic fibers destroyed entirely in the infiltrated areas, present in others, although many of the fibers stain poorly.

(7) Sebaceous glands. Those in the neighborhood of the infiltration entirely destroyed, present, however, in the deeper layers.

(8) Sweat glands. In the later stages a mild infiltration is present. In several areas, the glands and their openings are dilated.

The various theories as to the aetiological factor responsible for dermatitis papillaris capillitii are cited, even as to the process being a tuberculous one, but the only tangible evidence the authors were able to obtain was the presence of reddish violet-stained collections of micrococci (cresyl violet stain).

The trauma by the wearing of collars is supposed to be responsible for the keloidal termination of the process.

**Contribution to the Study of Scleroderma Circumscripta.** VIGNOLO-LUTATI, p. 592.

The author examined typical lesions of lichen planus, some in an early stage, others in regression. Clinically, he found on the skin of the penis miliary papuloid lesions of a polygonal form, flat, with a glistening surface, white in color, without any erythematous pigmented areola; and simultaneously, on the skin of the scrotum of the same patient, three areas of various sizes, of a polycyclic contour, all porcelain white and glistening in character, also without any erythematous pigmented areola. The mosaic arrangement, characteristic of lichen planus, was lacking. Histologically, the lesions on the scrotum and penis did not correspond with the characteristic changes of a lichen planus. The sections, where healing had taken place, took on, in several places, the character of an atrophic sclerotic process. The failing mosaic arrangement is explained by the fact that through the marked sclerosis an intimate coalescence of the edges of the individual lesions had taken place. The diagnosis was that of a lichen planus sclerosus atrophicus, a condition resembling very much the circumscribed sclerodermias.

The author, in his résumé, notes that in a scleroderma circumscripta superficialis, which is often lichenoid at the start, one finds as the first stage of the pre-sclerotic infiltration, a papuloid appearance, which often has the clinical characteristics of a colorless variety of lichen planus (*L. albus*, *L. morphæicus*), but which histologically, however, can be differentiated from a genuine initial papule of lichen planus sclerosus in that the histological findings are comparable to the

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regressive stage only. Secondly, the terminal stage is that of an atrophic sclerosis which, clinically in two cases, was characterized by a white, more or less depressed area of an atrophic, scar-like appearance.

(*Ibidem*, August, 1912, xix, No. 8.)

### Contribution to Our Knowledge of Encephalitis during the Treatment of Syphilis. FELIX PINKUS, p. 675.

Pinkus, in an article which should be read in its entirety for a full appreciation, claims that the cases of encephalitis following salvarsan infusions are reaction manifestations of syphilitic substances, stimulated through the shock of the energetic arsenical preparation. These cases of encephalitis are not the result of a poisoning with salvarsan or with one of its by-products; they are to be considered as manifestations of the Herxheimer reaction. Their appearance several days following the injection is to be explained by the fact that not the œdema and hyperæmia themselves produce the clinical symptoms, but that the gradual and progressive damage to the nerve fibers and ganglion cells is responsible for the condition.

The reacting substances need not at first be accumulated in the brain in large quantities. Through a first, apparently harmless, injection of salvarsan, these latent substances come into solution, are increased in amount and are stored up in the brain, so that they react to a repeated injection. These reacting bodies can come from syphilitic changes in that organ or its coverings. They can, moreover, be transported to the brain from any place in the body by means of the blood stream.

The prophylaxis of these cases of encephalitis should be brought about by extremely energetic treatment, combining the most powerful mercurial preparation with intense and frequent salvarsan injections; energetic treatment at the start for the purpose of producing a syphilitic sterilization.

Treatment with small doses of salvarsan given at long intervals is more of a so-called provocation method than a cure. The awakened syphilitic organisms must be extinguished between the salvarsan injections by means of the most energetic mercurial preparations or by using those preparations of mercury having a long-continued action, plus iodide treatment; chronic intermittent treatment for the purpose of a fractional syphilitic sterilization.

### Lymphatic Leukæmia with Skin Tumors. FIMMEN, p. 705.

The author describes a case presenting tumors of the scalp and forehead with enlargement of the regional lymph glands. The blood picture showed a diminution in the number of red blood cells, with an increase in the number of white cells to ten times their normal number. The increase was mostly in the basophilic lymphocytes.

Roentgen rays and injections of arsenic caused the tumors to disappear and the white cells to diminish to one half their former number. Finally, the proportion of white cells was reduced to normal, although the ratio of the various whites remained as before.

### Three Cases of Bromoderma Tuberosum. W. M. KUDISCH, p. 713.

Kudisch reports three cases of epileptics who presented a papillomatous eruption on the lower extremities following the use of the bromides. The tumors were polyangular, of a soft consistency, brownish red in color, and were covered with a dirty gray crust. The edges of the tumors exhibited marked vegetations. Upon

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removing the crust, intensely red, profusely bleeding papillæ became visible, from which pus exuded upon slight pressure.

The treatment consisted of a withdrawal of the bromides, the use of mercurial plaster and ointments, compresses and baths of sodium chloride, and 15 to 20 grammes of the latter internally per day. The vegetations were cleansed diligently with benzine, the pus was expressed from the papillæ, and compresses of a 10 per cent. solution of Liq. Burrowi were used.

(*Ibidem*, September, 1912, xix, No. 9.)

**Concerning the Salvarsan Dermatoses.** A. BRAUER, p. 800.

A clinical review of the exanthem following injections of salvarsan leaves no doubt but that it is a genuine toxic eruption. And, moreover, this toxic eruption is produced through the high arsenical content of the preparation and is therefore to be classified as an arsenical eruption. It is therefore advisable to wait before injecting a second dose, until the eruption has entirely disappeared.

The treatment of the severe forms of these eruptions is best carried out by salt solution infusions, preceded, perhaps, by venesection, by intestinal irrigation, forced water feedings, and in addition a bland dermatological therapy locally.

**Experiments to Intensify the Wassermann Reaction in Syphilis.** FRANZ BLUMENTHAL and LUDWIG HERCZ, p. 769.

The cause of the variable results of the Wassermann reaction is to be looked for in the variation of the extracts and complement, their action one on the other, and in the peculiarity of the sera themselves in that a negative reaction may be due to the exceptionally high content of normal hemolytic amboceptor which some sera possess.

The authors recommend a modification (Wechselmann) in those cases in which the Wassermann reaction is negative. This consists of the addition of freshly prepared barium sulphate solution to the serum to be examined. It must be remembered that there are syphilitic sera in which a positive reaction can be obtained only after using this modification: a modification which sometimes gives positive results even with non-syphilitic sera.

**Concerning the So-called Idiopathic Erythemas.** HANS GEBER, p. 782.

The mildly debilitating septic diseases can produce erythema in which the morphological picture is dependent on the virulence of the bacteria, and on the layer of the skin in which the changes are to be found. In most instances these cases are acute inflammations, which recede without further change and disappear after a longer or shorter time. The inflammatory process can be of very short duration, as in urticaria, or it can be accompanied by suppuration and necrosis.

These changes must be considered to be metastases, determined according to the etiologic causes. These can be ascertained by blood cultures; in most cases the point of invasion can be demonstrated.

(*Ibidem*, October, 1912, xix, No. 10.)

**Attempts in Removing Tattoo Marks.** S. FEILER, p. 900.

The methods of procedure commonly used are as follows. First, that method in which the pigment is removed from the areas in which it is found, and secondly, that in which the pigment is allowed to remain but some attempt is made to render it invisible.

The author's technique is as follows. Repeated injections (six) of fibrolysin

in quantities up to 3 cc., using a needle with sharp edges, are so injected into the skin that the needles are introduced in the direction of the tattoo lines and so placed that they do not glide over the layer of pigment but remain in that layer. In this way a canal of  $\frac{1}{2}$  to 2 centimeters in length will be formed. The needles are then withdrawn, and if the extent of the process requires it, they are again introduced and withdrawn. A thread saturated with a 50 per cent. solution of silver nitrate is then introduced through the needle into the canals. Warm applications are then applied and the threads are allowed to remain in place, and after two days they are withdrawn. A severe local inflammation results, whereby part of the pigment is carried to the subcutis, as is so with every serous inflammation, but the greater part is brought to the outer skin surface through the canals without being retained in any of the superficial layers.

The results were very satisfactory and very encouraging. In place of the sharp, narrow and very pronounced marks, indistinct, pale and slightly blue streaks are to be seen.

**The Influence of Salvarsan on the Kidneys in Intravenous Injections.** H. J. SCHLASBERG, p. 867.

Salvarsan is excreted mostly in the urine. The author observed that salvarsan often produced an irritation of the kidneys, which clinically is manifested by the appearance of urinary casts. The irritation of the kidney parenchyma is not very severe, in that one finds principally only hyaline casts. Only in a few cases were granular casts to be found. This irritation is of short duration, and soon disappears.

To ascertain whether these casts spoke for anatomical changes in the kidney, Schlasberg injected salvarsan into rabbits, which he afterwards killed. The kidneys were sectioned to ascertain what changes were present and to compare these changes to the urinary findings of the corresponding animal.

Schlasberg found that a single intravenous injection of salvarsan of about 0.02 g. per kilo weight did not produce either clinical or anatomical changes in the kidneys. Were this dose repeated, a change was produced, in that, clinically, hyaline and granular casts, and a hyperæmia with more or less outspoken nuclear degeneration of the epithelial cells of the urinary channels, were to be seen.

By doubling the dose, an increasing cylindruria, which was followed by an albuminuria, resulted after one to several days. After injecting a dose of 0.07 to 0.08 g. per kilo, an albuminuria with many casts was soon produced. The former subsided rather quickly, but the latter persisted somewhat longer. The kidneys, at the time the process had reached its highest point, showed a marked degeneration. These changes seemed, however, to be comparatively benign in that the sections of such cases examined after the severe clinical symptoms had disappeared were relatively normal.

**Concerning a Heretofore Unknown Action of Yohimbin.** HÜBNER, p. 863.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Dec. 19, 1912, xxxviii, No. 51.)

Abstracted by CLARENCE ALLEN BAER, M.D.

**Concerning the Intramuscular Use of Fulmargin.** ENGELN, p. 2414.

Engelen used Fulmargin in several cases of facial erysipelas, and concludes that Fulmargin, an electrolytically produced colloidal silver preparation, has the following advantages over the chemically prepared colloidal silver: 1. Absolute cleanliness. 2. Keeps for a long time. 3. Harmlessness. 4. Can be used intra-

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muscularly. 5. The increased katalytic power that rests in the high diffusion of the preparation makes it possible to produce a more injurious oxidizing effect on the bacterial toxins.

(*Ibidem*, Dec. 26, 1912, xxxviii, No. 52.)

### Concerning Further Experiences with an Acetone Extract in the Serum Diagnosis of Syphilis. FRITZ MUNK, p. 2457.

Munk claimed previously that the Wassermann reaction depended on the physical condition rather than on the chemical nature of the lipoids in the extract. Munk, however, agrees with Stiner when the latter states that acetone does not extract a large number of neutral fats as does alcohol. But the lipoids held in the acetone extracts are no more characteristic than those in the alcohol extracts, as is shown by the following experiments. If the acetone be evaporated from a working acetone extract and the residue (lipoids), taken up in ether, then the lipoids will not work as antigen in a Wassermann reaction (the ether is evaporated before adding the hæmolytic system). Now, if the ether be evaporated and the residue taken up in acetone again, the solution will work as antigen in the Wassermann reaction. Therefore proper working of the extract depends on the physical state of the lipoids, as in alcoholic extracts. Munk is now working on various extracts to be used as antigens, and will show later that not the acetone nor the alcohol extracts are to be preferred, but the aqueous extract, as Wassermann originally stipulated.

(*Ibidem*, Jan. 2, 1913, xxxix, No. 1.)

### Duration of Contagiousness of Syphilis and Permission to Marry in the Light of the New Researches. ERICH HOFFMANN, p. 14.

Hoffmann considers in detail the various stages of contagiousness of syphilis, its effects on the ova, on the spermatozoa, and on the husband, wife and child generally. The conclusions drawn are, that in spite of all advance, we still remain at the old marriage-rule (*i.e.*, treated cases may marry three to five years after infection), except that we may hope to substitute two to three intensive mercury-salvarsan treatments for five or six courses of mercury. How much the period of waiting can be reduced by successful abortive treatment is still to be shown by later experience.

(*Ibidem*, Jan. 9, 1913, xxxix, No. 2.)

### Concerning the Effect of Salvarsan on the Auditory Organs. E. RIMINI, p. 71.

Rimini makes his report on eight cases. These patients had no auditory disturbances before the injections. They all had complete or partial deafness, tinnitus and dizziness from one to three months after salvarsan injections, for secondary syphilis. The salvarsan had been administered subcutaneously, intramuscularly or intravenously. That the ear affections were due to the direct toxic influence of the salvarsan seems improbable, because the auditory manifestations occurred on the average from four to eight weeks after injection, and this is too late for a toxic effect. The explanation advanced is that salvarsan is a strong specific against syphilis and that there was present before the injection some involvement of the auditory nerve—so slight an involvement that it was unnoticed by the patient and unresponsive to mercury. Salvarsan suddenly caused a flaring up of this slight process—an inflammation is set up comparable to that caused in a lupus tubercle by a tuberculin injection. This explains also the varying intensity of the auditory involvement.

Rimini warns against the use of salvarsan in any case that has even the slightest auditory disturbance of a non-syphilitic nature preceding the syphilitic infection by no matter how many years.

(*Ibidem*, Jan. 16, 1913, xxxix, No. 3.)

**Concerning the Modification of Staphylococcus Vaccine.** GEORGE WOLFSOHN, p. 112.

During the first year of Wolfsohn's experimentation with Wright's staphylococcus vaccine, results were as a rule fairly good, but not always so. In cases of chronic eczema and severe acne there were a great many negative results. The author has tried for several years to improve on the preparation of vaccine so as to include the toxins produced, as well as the bacteria themselves, in the immunization.

After various experimentations with small doses of culture filtrate, to which earbolic acid or lysol had been added, finally a certain combination of culture filtrate and killed cocci was hit upon and used without any unfavorable effects. Wolfsohn's preparation was as follows: A three or four day old agar culture of staphylococci from various sources is suspended in sterile salt solution (5 cc. salt solution to an ordinary agar slant). The suspension remains 24 hours in the room temperature, being frequently shaken during this time, and is then centrifugalized. Now the upper fluid is decanted and passed through a bacterial filter until bacteria free (this fluid contains cocci); then 0.25% lysol is added and the liquor remains at the room temperature for 24 hours. The sediment of the agar, centrifugalized, is then suspended in physiological salt solution, freely shaken and killed by an exposure for an hour to 60° centigrade. The bacterial emulsion is then diluted until 1 cc. contains one thousand million cocci, and 0.25% lysol is added. The original filtrate and the bacterial emulsion are then combined in equal parts, so that 1 cc. will contain 500 million cocci and 0.5 cc. of culture filtrate. The vaccine must be kept in a cool place, and will then keep from four to six months. The first dose given is 0.1 cc. Local reactions at the point of injection have occurred, but they subsequently disappear in 12 to 48 hours. Abscess formation has never occurred. The results in the cases of chronic eczema have been overwhelmingly good and far better than with the other vaccines. Thirty cases of chronic eczema of the legs in women who had the eruption for years and who had attended polyclinics for a long time, showed lessening of pain, less moisture and less redness after the first injection. In all cases, after a few weeks, there was considerable reduction in size, and drying of the eczematous area. Three cases of sycosis barbæ, which had been present for years, recovered after six to eight injections. Four severe acne cases were recorded and fourteen cases of furunculosis, that had previously resisted treatment, were cured by Wolfsohn's staphylococcic vaccine. The furuncles showed more local reaction after the injection, but after 24 hours the reaction had disappeared. No new furuncles had formed after the first injection, and the cores of the old furuncles detached themselves more rapidly than ordinarily. Failure resulted in the following cases; two cases of osteomyelitis of the femur, in both of which cases the subsequent operations showed sequestra; two cases of chronic eczema of the nipple, which showed some improvement, but rapidly relapsed. In many cases the stock vaccine was used, after which there was no improvement. After five injections of the stock staphylococcic vaccine, the autogenous vaccine is recommended.

**Concerning Latent Erysipelas.** ARTHUR SCHLESINGER, p. 117.

The author considers cases of erysipelas that show two remarkable characteristics; first, lingering of the disease in the deeper tissues, later appearing in the

upper layers of the skin and then rapid subsidence of the disease; second, an unusually long period of incubation; Schlesinger reports two cases in detail. In the first case, in the middle of May, 1910, the patient received a scratch on the left hand while assisting at a septic abortion. The wound healed rapidly. Fourteen days later there was pain in the left arm, particularly near the elbow. By the middle of June the pain was very severe and the patient felt very weak. Visual examination of the arm was negative, but there was pain upon pressure on the elbow joint. A competent neurologist discovered nothing except pain upon pressure. A diagnosis of neuritis of the ulnar nerve was made. Treatment produced no relief. Some days later, the patient was so weak that she was forced to go to bed. By July the pain became more severe and swelling of the ulna could be felt. The evening temperature gradually rose. The diagnosis of periostitis of the ulnar bone was made. Treatment was without result. Fourteen days later the deep swelling had increased somewhat but the skin was intact. One morning a redness of the skin about the size of a penny was marked, particularly over the swelling, and from further observation there was no doubt but that it was a case of erysipelas.

In the second case, in the beginning of May, 1912, three tubercular glands were removed from the right side of the neck, and the wound was tamponed. Twelve days after operation, infiltration was noted in the depth of the wound. The patient felt weak, although at first there were no general symptoms. Tincture of iodine was applied locally. Fourteen days later the patient became very much worse. Fever had set in, and six days later the temperature was still rising. One day a small red spot was noticed over the swelling, and there was no doubt of the existence of erysipelas.

The author remembers having seen similar delayed processes of the eruption in other acute cases. It is difficult to differentiate between severe erysipelas and phlegmon. In some cases there is nothing to be seen on the first day, in a deep phlegmon, which on the second or third day becomes a typical erysipelas. The author has never seen an infiltration disappear and a deep tissue erysipelas appear in its place. Ordinarily, the incubation time of erysipelas is from one to two days, although von Fellman has reported erysipelas incubation time to eight days. In the first case reported the incubation period was more than two months, in the second case about three weeks; the temperature did not vary during the greater part of the incubation period, but there was a slight rise in temperature at the appearance of the erysipelas, although a typical fever curve was never shown. In the second case there was a slight rise in temperature during the incubation period, but the erysipelas ran its course with a typical fever curve. Swelling in the deeper tissues showed that the provoking agent was not entirely latent, but that it had spent itself by infiltration in the deeper tissues. The disappearance of the deep infiltration in the deep layers, at the outbreak of the erysipelas, shows that we are not dealing with a transferable type. From a diagnostic standpoint the cases are very interesting, for in the first case several diagnoses were made, namely, neuralgia and periostitis, but no weight was laid upon a history of the scratch wound. Later, when the temperature rise was persistent, the first thought was given to the relationship between the scratch wound and the condition. In the second case, thought was first centred on the possible retention of pus or to the recurrence of tubercular glands, the latter being unlikely, because of the shortness of time elapsing since the operation for their removal.

(*Ibidem*, Jan. 23, 1913, xxxix, No. 4.)

**Treatment of Vegetable Parasitic Skin Diseases.** VICTOR KLINGMUELLER, p. 145.

The author names the various skin diseases produced by the vegetable parasites on the skin, as pityriasis versicolor, erythrasma, favus, eczema, and various



trichomycoses. He also gives a review of the multiple methods of treatment, including the use of ointments, washes and many antiseptics.

**Cure of Verrucæ Planæ by Salvarsan.** HEINRICH LOEB, p. 168.

The author reports three cases in detail, two of which were cured by a single injection of salvarsan. Case one received an intragluteal injection in alkaline solution, of 0.26 gram salvarsan. Case two received an intravenous injection of alkaline solution, of 0.45 gram. Case three received an intravenous injection of neo-salvarsan. In the first case, the warts disappeared entirely after a few days. In case two, the warts did not entirely disappear and a recurrence was not prevented. In case three, the warts disappeared entirely; the last case had some ordinary warts in addition to the verrucæ planæ and these were absolutely unaffected by the treatment.

**Syphilis of the Internal Female Genitalia.** P. MEYER, p. 169.

The diagnosis of syphilis of the internal genitalia is very difficult in spite of the new advances in the diagnostic armamentarium. The discovery of the spirochæta pallida or the Wassermann reaction is of little value in this respect. Meyer proceeds to give a review of the various conditions. Esthiomène of the vulva is very rare—not one case was seen in the Munich clinic in fifteen years. Of syphilitic changes in the uterus, chancre of the lower part of the uterus is not uncommon. Inflammation of the lining of the uterus is very rare. Angio-sclerosis of the uterus is syphilitic and rare. Hæmorrhage of the uterus due to syphilis has been demonstrated in fourteen cases up to 1906. Spirochætæ have been demonstrated in the uterus of a fœtus with congenital syphilis. In 1909 a case of syphilitic ulcer of the uterus combined with a luetic melanorrhagia was reported. Late syphilitic affections of the uterus have been reported frequently. Six cases of syphilitic metritis have been reported. In 1911 a gummatous involvement of the endometrium was reported. Amenorrhœa is occasionally of syphilitic origin. A few cases of rupture of the uterus due to syphilitic diseases of the uterus have been reported.

Syphilis of the ovaries and tubes: Some authors claim that syphilis of the ovaries does not exist, and syphilis of the tubes is very rare. Most of the few cases reported were published before the time of our modern methods of examination, therefore they are not very trustworthy. The important point that Meyer wishes to make is, that in a long continued uterine hæmorrhage in which the ætiology is not known and which does not yield to treatment, syphilis must be considered.

(*Ibidem*, Jan. 30, 1913, XXXIX, No. 5.)

**Wassermann Histopin Treatment in Dermatology.** MAX JOSEPH, p. 203.

The Wassermann histopin is a staphylococcic extract which has no irritating properties. Histopin can be kept for weeks and, therefore, has been combined with salve, histopin salve, to facilitate its use. Histopin salve has been rubbed into the skin in various infected staphylococcic cutaneous inflammations, with apparently good results. Histopin can be made into a gelatin as well as a salve. Joseph demonstrates the good results from the use of histopin in furunculosis and its immunization of the skin in the neighborhood of the furuncles. Histopin gelatin was rubbed into the affected part daily for fourteen days, and then for eight days one application was made daily. No new furuncles appeared in the neighborhood of the ones already existing so the gelatin is not limited in its use to its curative properties. Histopin gelatin was of great use as a curative agent, overcoming the infection in impetigo simplex. Similar good results were obtained in impetigo

contagiosa. Several cases of pemphigus were also treated with histopin gelatin and many times the formation of pemphigus bullæ was prevented. In eczema the histopin gelatin was of great use in certain cases, but not a cure, although eczema of the lip yielded very rapidly under treatment with histopin salve. Joseph finds histopin of great use in *acne vulgaris*, although in cases of comedones and *acne indurata* and in *acne varioliformis*, histopin showed no advantage over older methods of treatment. The most rapid and astounding results were obtained in blepharitis. Joseph, in concluding, states that histopin is of great value and that Wassermann deserves credit and thanks for his work along these lines, but thinks that the exorbitantly prohibitive price of histopin makes it impracticable for general use.

**Treatment of Furunculosis and Coccogenic Sycosis with Staphylococcic Vaccine, "Opsonogen."** LUDWIG ZWEIG, p. 204.

The author first gives a description of the diseases considered; he then gives a review of the explanation of the effects of vaccine and immunization as described by Wright. Then 6 cases of furunculosis with the Opsonogen treatment are reported and 3 cases of coccogenic sycosis, the serum being injected in the subcutaneous intrascapular region. The Opsonogen used is prepared by the firm of Gütrow and contains staphylococci in emulsion, containing 100,000,000 to 500,000,000 bacteria. The injections for furunculosis were made with 100,000,000 Opsonogen; those for the sycosis cases were from 75,000,000 to 500,000,000. Zweig concludes that there is no other medication that will give such brilliant results, but says that in sycosis non-parasitica the results are not so striking, yet the disease will yield after two or three courses of injections.

**Quantitative Hæmolysis Reaction in Syphilis.** V. ELLERMANN, p. 219.

Ellermann recently reported the use of the Herman-Perutz reaction in syphilitic serum, and reported at that time the testing of 33 syphilitic sera, 28 of which were positive and 15 negative. More recently he has used as an experiment 75 other cases, of which 33 were syphilitic sera, although only 19 reacted positively, and in the remaining 14 cases the Herman-Perutz reaction was negative and the Wassermann reaction was positive, although rather weak. The 43 control cases were negative. Therefore, he concluded that at that time the Herman-Perutz reaction was a specific for syphilis, although not sufficiently sensitive. Ellermann experimented in order to find a reaction that would combine the simplicity and rapidity of the Herman-Perutz reaction with the sensitiveness of the Wassermann reaction. It was also deemed valuable to make some use of the quantitative reaction, if such were possible. The author used various liquids for diluting the serum in doing the Herman-Perutz reaction. The results were various. With the proper manipulations and dilutions of the materials used, Ellermann concludes that the results of the Herman-Perutz reaction with syphilitic sera are fully as sensitive, specific and quantitative as the Wassermann reaction. The method is preferred to the Wassermann because of its simplicity. Continued experimentation with more material and by various experimenters is necessary before definite conclusions can be reached. In inactivating the serum for the Herman-Perutz test, exposure in a water bath of 55° Centigrade for only five minutes is all that is necessary.

**Syphilitic Inflammation of the Middle Ear.** CARL LUEDERS, p. 225.

The author states that by syphilitic disease of the middle ear he means the specific infection beginning in the middle ear itself, and not an extension of the process from luetic tonsils, pharyngeal or nasal inflammations. Then five cases

are reported in detail. In these cases, deafness in the involved side always presents an acute inflammation of the middle ear, with an inflamed and reddened ear drum, without obscuring the contour of the latter. Paracentesis is always without benefit. The disease often occurs without pain and without fever, so that failure to make a diagnosis is pardonable; paracentesis has never done any harm. In the five cases reported there was a history of acquired syphilis in four cases, while in one case there was a history of hereditary lues. Of the four cases of acquired syphilis the infection had been from two to six years' standing. The symptoms of which the four cases of acquired syphilis complained were heaviness and constriction of the head, accompanied by increasing deafness. These cases had noticed the symptoms from two to three and a half weeks. The patients could not set any definite day when they became deaf, but there had been a gradual loss of hearing. Case 1: The patient had vomiting, dizziness and nystagmus. Case 2: Facial paralysis of the affected side. Case 4: Intense swelling of the ear muscles. Case 5: Fever, dizziness, vomiting and nystagmus towards the well side. Lueders thinks the symptoms were due to a gumma of the middle ear, combined with a periostitis of the auditory bones. Anti-syphilitic treatment was given. Mercury and iodide were given in all cases and resulted in a complete cure. Neo-salvarsan was used only in the fifth case and six injections were given. The Wassermann test in the fourth and fifth cases was positive. The other cases occurred before the discovery of the Wassermann reaction. In the first and fourth case the symptoms disappeared very rapidly after the treatment was instituted. Case 5 resisted treatment for ten weeks, but eventually healed, leaving a perforation of the ear drum.

#### ARCHIVOS BRASILEIROS DE MEDICINA.

(February, 1912, ii, No. 1.)

Abstracted by AUGUST RAVOGLI, M.D.

#### Concerning *Treponema Pallidum*. EDUARDO MARQUES, p. 1.

A complete and general review of the subject, beginning with the discovery by Schaudinn and Hoffmann of the organism of syphilis. The article is well illustrated.

#### The Sero-Diagnosis of Syphilis by the Wassermann Reaction. RIEDEL and GEYER, p. 19.

The authors maintain that the surest way to recognize the existence of syphilis is by means of the Wassermann reaction. The objections made to this method are based on errors of technique in the preparation of materials and to errors of judgment in interpreting the results. Many chemical substances somewhat related to specific antigen go together, and yet these are not specific to syphilis. Some experimenters employ non-specific antigen, obtaining a reaction similar to the Wassermann reaction, and have come to the conclusion that there is no specificity to the reaction in syphilis. The authors believe that the Wassermann reaction is strictly specific in syphilis, if the antigen employed is a pure product of the treponema. The Wassermann reaction responds to other related antibodies, as in the exanthemata, because probably their antigens are chemically related to the lipoids found in extract of liver. Hence, they do not recognize reactions made with chemical non-specific antigens.

The test is especially valuable in ophthalmological and neurological work, aiding in the discovery of aetiological factors, and thereby avoiding the necessity of empirical treatment. The authors claim to have reduced to a minimum the

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number of diseases outside of lues, in which the reaction is positive. Inluetie nervous affections, especially in general paralysis, 98% of spinal fluids gave a positive Wassermann reaction, while the blood serum gave only 41% positive reactions, in a series of 100 cases. After the administration of salvarsan, the spinal fluid reaction becomes negative after seventy days, although there is no improvement in the general symptoms. In the preparation of antigens, the extract of syphilitic liver is always recommended.

**The Sero-Diagnosis of Syphilis and the Classic Wassermann Reaction.** DAVID MADEIRA, p. 51.

Madeira does not believe that the Wassermann reaction is an infallible means for the diagnosis of syphilis, for a negative result does not exclude its existence, while a positive reaction may be obtained in lepra, pian, trypanosomiasis and the exanthemata; however, a positive reaction in a non-luetic subject is a rare exception.

**Clinical Diagnosis of the Initial Lesion of Syphilis.** ZOPYRO GOULART, p. 62.

A general review of the subject from the clinical and bacteriological standpoint.

**New Studies on the Ætiology of Syphilis Maligna Præcox.** JULIANO MOREIRA, p. 69.

A marked accentuation in the severity of the symptoms of lues is to be considered in the light of malignant syphilis; this obtains in cases with persistent malnutrition, diffused or multiple localizations of the lesions in important organs, tendency to relapse, fever, anæmia, etc. If the advent of the tertiary symptoms has been premature, or if the secondary manifestations have been limited to the mucosæ, we are dealing with syphilis præcox. When in spite of the ordinary treatment the disease is very severe and ends fatally, the designation of galloping syphilis is applicable. In malignant syphilis, the Wassermann reaction is usually positive. In those cases in which it is negative, this is due to an enfeebled organism, which is no longer capable of producing antibodies. The rapid changing of the reaction in malignant syphilis, from positive to negative, is usually an unfavorable sign. On the contrary, the change to positive, after having been negative for a long time, is to be regarded in favor of a good prognosis.

In the cutaneous manifestations of malignant syphilis, spirochætæ have only exceptionally been found. Tomaszewski has made successful inoculations from fragments of these lesions.

From an ætiological standpoint, and until further researches throw more light on the subject, malignant syphilis may depend in part on the existence in the patient of alcoholism, palludism, scurvy, diabetes, nephritis, anæmia, etc. The author does not believe that there is any causal relation between the location of the chancre and its severity and the malignancy of the subsequent symptoms.

**Visceral Syphilis.** A. AUSTREGESILLO, p. 83.

The Wassermann reaction has proved a great aid in the diagnosis of visceral syphilis. In the secondary and tertiary periods the disease may affect every viscus in the body, especially in the tertiary stages; but even in the secondary stages it may produce alterations in the abdominal and thoracic viscera.

The author takes up first the consideration of the circulatory apparatus; in cardiac syphilis he discusses infiltrated myocarditis, gumma, condylomata, and

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fibrous pericarditis. Syphilis of the heart may be congenital, but usually it is a manifestation of tertiary disease. Acute and chronic aortitis and aortic aneurysm are usually due to lues, while the disease may attack every artery, producing endarteritis syphilitica. The coronary arteries may be thus affected.

He next discusses diseases of the respiratory apparatus. The larynx and trachea may be affected; in the latter there may occur circumscribed syphiloma, gumma, diffused syphiloma, ulcers and adenopathy. Syphilitic bronchitis is a frequent complication and may occur in the secondary and tertiary periods; it may be catarrhal, gummous, or sclero-gummous, with bronchiectasia. The lungs may show the circumscribed gummous or the diffused, infiltrated type of sclerosis, resembling, in some cases, the pneumonia of the new-born, or it may resemble pulmonary tuberculosis. The pleura may also become affected by the luetic process.

Taking up the abdominal viscera, the author discusses luetic affections of the stomach, intestines, liver, spleen, kidneys, pancreas, peritoneum, etc. He calls attention to the "syphilitic typhoid" which has been observed in Brazil.

In pancreatic disease, the author speaks of conjugal diabetes, many cases of this kind having been proved to be of luetic origin.

### Ordinary Manifestations of Syphilis of the Nose and Throat. J. MARINHO, p. 102.

A complete dissertation on the subject is given, with differential diagnoses. The article includes a series of colored illustrations in the text.

### Syphilis of the Veins and of the Lymph-Vessels. HENRIQUE DUQUE, p. 122.

Phlebitis may occur in the secondary and the tertiary stages of the disease. It may appear under three forms: troncularis, nodularis and erythemato-nodosa. The tertiary venous lesions have the characteristic tendency to attack regions and tissues already affected by the disease. Tertiary syphilomata usually occur in the veins of the abdomen. Enlarged glands which are easily movable, hard and insensitive, are usually due to syphilitic disease. The adenopathies of the tertiary period usually occur in the deep-seated organs and are nearly always sclero-gummous in character.

### Syphilitic Mental Disorders. VIANNA and DE LACERDA, p. 131.

The disease produces mental disturbances which manifest themselves in periods of excitement, depression, etc., and conditions resembling general paralysis, dementia præcox, etc. The authors studied luetic neurasthenia, gummous disease, luetic pseudo-paralysis, apoplectic brain-syphilis, epilepsy and paranoiac conditions. The complement deviation test and the lymphocytosis of the spinal fluids showed that cases apparently suffering from dementia præcox, were in reality affected by cerebral syphilis. They usually appeared in patients from thirty to fifty years of age. In 29 cases of cerebral syphilis in which the complement deviation test of the spinal fluid was made, Riedel found 24 positive results. In 19 cases, the blood gave positive reactions in six.

### On the Beneficial Effects of "606" in a Case of Nerve Syphilis. ANTONIO VIEGAS, p. 147.

The author refers to a patient twenty-six years old, affected with syphilitic epilepsy. The convulsive fits were very severe, one following the other. Mercurial injections gave little relief, and he gave intravenous injections of salvarsan.

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In the beginning the benefit was not markedly apparent, but gradually the attacks became rare and a perfect recovery was obtained.

**Bouba and Syphilis; Relation Between the Two Treponemæ.** SILVA ARAUJO FILHO, p. 150.

The author states that bouba (*frambœsia tropica*, pian, yaws, etc.) is a definite, specific disease, which, although it has a great resemblance to syphilis, is fundamentally different, as shown by the comparative clinical study, and by its ætiology and histopathology.

The experiments in animals made by Charlous, Neisser, Halberstaedter, Baermann and Castellani have established in an absolute manner its independence.

There is no special bouba in Brazil. The *treponema pertenuis*, the pathogenic factor of bouba, and the *treponema pallidum* show little morphological difference. The inoculation in the monkey differentiates the two parasites.

The Wassermann reaction is always positive in the eruptive periods. The ordinary clinical aspects of bouba are a frambœsiform eruption, which is preceded by the general symptoms of the infectious diseases. The eruption is accompanied by swelling of the lymph glands in relation with the cutaneous lesions, and with osteo-articular pains, in various joints, different in intensity.

The distinction of three periods in the evolution of bouba accounts for the confusion of this disease with syphilis. Moreover, it is not justifiable, because, according to the observations of the author and of other Brazilian observers, the initial, primary form of the eruption is identical with the manifestations of the so-called secondary period; so far, no tertiary or late manifestations have been observed.

Salvarsan can be considered as a specific remedy for bouba.

**Prophylaxis of Syphilis.** WERNECK MACHADO, p. 158.

The author treats of this interesting subject in three parts. In the first part he reviews the old methods of coercion for the prophylaxis of syphilis and venereal diseases. He states that this question, which has been the subject of much discussion, has not yet found a solution, even after the two international conferences in Brussels. The author considers the prostitute as the principal agent for spreading venereal diseases, yet he claims that all coercive rules of prophylaxis have failed. He opposes also the houses of tolerance or brothels, where these women are isolated, as in a prison, for the benefit of patrons.

He finds inhuman the regulation of prostitution, which is practised in the principal European cities. He vividly describes the manner of living of the prostitute, always suspected and persecuted by the agents of the police, never permitted to come in contact with the world, and for any breach of the law, or only on suspicion, being sent to Sainte Lazares. The diminution of prostitution depends upon society; it is for the authorities to investigate the causes and remedy the evils. The regulation of the prostitutes will have no effect, when the clandestine prostitutes remain free, and exempt from any regulation. The author affirms the great benefit derived from the conferences of Brussels, and praises the establishment of societies of sanitary and moral prophylaxis, from which a great deal of benefit has already been derived.

The teaching, either verbally or with booklets, of the venereal dangers, has given good results. In the same way the hospitals and dispensaries for the treatment of these diseases may be of benefit.

The author admonishes the law makers, the moralists and the executives to use their power to prevent the spreading of the venereal diseases.

## REVISTA CLINICA DE MADRID.

(Sept. 1, 1912, viii, No. 11.)

Abstracted by AUGUST RAVOGLI, M.D.

**On the Value of the Antitriptic Index in the Serum of the Blood in Cancer.**  
F. ESCUDE, p. 171.

The author states that antitripsin is a substance contained in the blood serum which prevents the digestion of albumin by the proteolytic ferments. It is considered as an antibody, but does not possess absolute characters of its own. The injection of tripsin in an animal increases the antitriptic power of the serum. In the same way the antitriptic power is destroyed by a continued temperature of 56°. Tripsin has a peculiar action, and so long as it remains in the blood serum, does not prevent digestion, leaving this action to the pepsin and diastase. The antitriptic power does not depend upon the quantity of albumin in the blood. These characters prompted Escude to consider the antitripsin as an antibody. Its rapid formation in the organism is found to be against its being an antibody. Indeed, the formation of the other antibodies occurs slowly. Antitripsin does not only neutralize the action of the pancreas, but also that of the polynuclear leucocytes. An antibody does not show oscillations in quantity as does the antitripsin. Ether removes from the serum its antitriptic power, but by addition of lipoids it is soon regained. The lipo-albuminoid substances prevent the digestive action of the tripsin.

For these reasons antitripsin is no longer considered to be an antibody, but the antitriptic power to be the result of the quantity of lipoids contained in the serum.

The author inclines to believe the antitripsin to be an antibody; he does not believe much in the action of the lipo-albuminous substances, as preventing the action of the tripsin; their neutralizing action, and the relation between them and the antitriptic power of the serum has not yet been demonstrated.

Escude considers the antitriptic physiological index, which has been found very variable by the different observers. This difference he attributes to the method applied. He finds no difference of antitriptic index, although the animal may be in the digestive period. Yet he claims that an antitriptic index cannot be established for the adult because it varies a great deal. He refers to his method and to the antitriptic index obtained in ten subjects. He speaks of the antitriptic index as found in individuals affected with cachexia, acute infections, syphilis, tuberculosis and cancer. In cachectic conditions the antitriptic index is not changed. In scarlatina and erysipelas it is somewhat increased, but distinct from cancer. In syphilis it is not changed, but if the patient becomes cachectic, the antitriptic power increases. In tuberculosis it is not constant, and it seems to depend upon the localization of the tubercular process.

Tables showing the antitriptic index in different diseases are shown. In cancer the antitriptic reaction was found positive in 81.4%. The author believes that the antitriptic reaction has an important relation to the condition of denutrition, to the size of the tumor, etc., but he states that in his observations the high antitriptic index is in relation to the quantity of infiltrating epithelial elements. He goes deeply into the study of the formation of the antitripsin, and of the increase of the antitriptic qualities of the blood, but how this occurs is not clear. Then he speaks of the different methods of obtaining the antitriptic index, especially by the use of the proteolytic ferment of the leucocytes. (*To be continued.*)

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**Titration of the Solutions of Salvarsan for Intravenous Injections.** M. SER-  
RANO and ALVAREZ SAINZ DE AJA, p. 180.

The authors speak of the tolerance of the blood and of the veins towards substances injected directly into the blood. The isotonic injection has to be reduced in order to hasten the introduction of the fluid. For this reason they use solutions of 1 to 400.

(*Ibidem*, Sept. 15, 1912, viii, No. 18.)

**On the Value of the Antitriptic Index in the Serum of the Blood in Cancer.**  
(*Continued.*) F. ESCUDE, p. 215.

Escude mentions the methods of Ascoli and Bezzola, of Marcus, etc., but he prefers that of Baldelbaum, modified by Roux and Savignac. This is based on the digestion of the casein of the milk by the tripsin. It is a long and tedious process; the author has modified the method by using agar-milk, which is placed in test tubes, and can be kept in this way for a long time. At the time of the observation, one cubic centimetre of blood is taken, centrifuged, the serum is taken and mixed with a solution of tripsin, 1 to 100, which after a while is dropped on the agar-milk.

In healthy persons, the antitriptic index shows no variations; in ten cases it was found constantly 1 to 4. The antitriptic index is increased in many acute and chronic pathological conditions, but mostly in tumors of epithelial nature. The increase of the antitriptic power in these cases is of 81.4% of all patients.

The author claims that there is a difference between epithelioma and carcinoma. In epithelioma the index was found increased in 55.5% of all cases, while in carcinoma this was 90.4%.

He claims that the increase of the antitriptic index bears no relation to the degree of denutrition, the age of the patient and the size of the tumor.

It is possible that there is a relation between the antitriptic index and the quantity of the neoplastic tissues of the tumor, as a large quantity of neoplastic tissues may correspond to a higher antitriptic index.

### RIVISTA DI PATOLOGIA NERVOSA E MENTALE.

(July, 1912, xvii, No. 6.)

Abstracted by J. S. EISENSTAEDT, M.D.

**Unusual Case of Glandular Insufficiency.** C. F. ZANELLI, p. 344.

Zanelli's interesting report concerns a child, born at term, of healthy parents, whose family history is negative. The child weighed but four pounds at birth, but developed normally until the sixth month, when with the irruption of the first tooth a lenticular-sized macular rash was noted. The skin became flaccid and wrinkled. The child first came under observation at the age of eighteen months, when Zanelli recorded a moderate lordosis, unusual breadth of pelvis, marked shortness of the lower extremities and increased length of arms and hands. The hands were also much flatter than normal. The skin, instead of being normally stretched over the underlying tissues, was flaccid and presented deep wrinkles. The face and extremities were particularly involved, where the skin fell in deep folds. The child at this date had not yet walked. Zanelli excluded successively hereditary lues, congenital myxædema, congenital myasthenia and chronic atrophic acrodermatitis. He concluded that it was not possible to classify this case clinically under any of the hitherto described congenital anomalies, and suggested as an hypothesis a pluriglandular insufficiency.



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ANNALES MEDICO-PSYCHOLOGIQUES.

(March, 1912.)

Abstracted by J. S. EISENSTAEDT, M.D.

### **The Mental State in Leprosy.** BODROS.

Examination into the mental state of lepers in Abyssinia did not disclose anything characteristic as regards the cerebral condition of the patients. Bodros found that in spite of the marked sensory disturbances due to lesions of the peripheral nerves, that no patient showed hallucinations nor morbid interpretations. Intellect and memory were in all cases intact. The affections, however, were diminished or abolished, and were replaced by a certain irritability and tendency to violence and mischievousness. The infection, however, does not seem to be causal. The absence of hygiene, the inhumane treatment to which they are often subjected, and the repulsion which they inspire might well account for the psychic abnormalities.

### MEDICAL RECORD.

(Sept. 7, 1912, lxxxii, No. 10.)

Abstracted by FRANK E. SIMPSON, M.D.

### **A Plea for a More Careful Examination in Dermatology.** BENJAMIN F. OCHS, p. 434.

Ochs makes a plea for a complete examination of the entire body in dermatological patients.

(*Ibidem*, Oct. 5, 1912, lxxxii, No. 14.)

### **Syphilis of the Heart and Blood Vessels.** GEORGE RICHTER, p. 559.

Richter gives an interesting discussion of the pathological and general clinical features of syphilis of the heart and blood vessels. These organs show clinically nothing absolutely characteristic—nothing that might not be found in other diseases. If the diagnosis is made, however, often by means of the Wassermann and luetin tests, the prognosis is somewhat hopeful. Specific treatment is in most cases helpful.

(*Ibidem*, Oct. 19, 1912, lxxxii, No. 16.)

### **The Syphilitic Psychoses.** FRANCIS M. BARNES, JR., p. 691.

In an interesting article dealing with the relation of syphilis to certain psychoses, Barnes concludes that in cases of mental disorder the question of a possibly luetic origin should be carefully gone into. One should bear in mind, however, the following points:

1. There is no mental symptom-complex characteristic of syphilitic disease of the nervous system.
2. Many types of psychoses may be simulated by mental disorders caused by syphilis.
3. Cerebral syphilis may develop in a brain already mentally disordered and may occur in conjunction with other organic brain trouble.
4. Paralysis, paresis, and convulsions may be absent in cases of mental disturbance due to syphilis.
5. The differential diagnosis *intra vitam* may be difficult or impossible.

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(*Ibidem*, Oct. 26, 1912, lxxxii, No. 17.)

**The Treatment of Interstitial Keratitis by Salvarsan.** GEORGE W. VANDEGRIFT, p. 760.

Vandegrift states that nothing in his experience has approached the efficacy of salvarsan in the treatment of interstitial keratitis.

(*Ibidem*, Nov. 16, 1912, lxxxii, No. 20.)

**X-Ray Therapy.** HOMER E. SMITH, p. 891.

Smith discusses X-ray therapy. He concludes that X-rays are specific in many chronic and inflammatory lesions of the skin. It is curative in 98% of all malignant and semi-malignant superficial growths, and may be curative in the deep-seated sarcomatous and carcinomatous growths. Nevertheless, possibilities for harm lurk in its use and should be recognized.

(*Ibidem*, Nov. 16, 1912, lxxxii, No. 20.)

**Poisoning by Scarlet Red.** HENRY H. M. LYLE, p. 897.

Lyle reports a case of poisoning induced by the application of 8% scarlet red ointment to extensive burns. Several other authors have reported toxic effects.

(*Ibidem*, Dec. 7, 1912, lxxxii, No. 23.)

**The After-Treatment of Syphilis.** EDGAR G. BALLENGER and OMAR E. ELDER, p. 1024.

Ballenger and Elder believe that hard and fast rules cannot be made as to the amount of treatment necessary to cure syphilis. Gennerich of Keil and Milian of Paris simultaneously observed that the Wassermann reaction became more positive eighteen or thirty-six hours after the injections of salvarsan. This so-called provocative injection renders the test very delicate and of consequent great value in obscure and latent syphilis. If the patient is nearly cured the strength of the reaction is diminished and within ten days it may become negative. Treatment should be continued as long as it is positive. Provocative injections should be given six months and again one year after the patient is apparently cured. The luetin test is described and the technique of injection is noted.

**Psoriasis—A Neurosis.** WILLIAM P. CUNNINGHAM, p. 1031.

Cunningham believes that psoriasis may be included among the dermatoses which are due to some fault of the nervous system.

He details three illustrative cases in support of this view.

## JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Sept. 14, 1912, lix, No. 41.)

Abstracted by FRANK E. SIMPSON, M.D.

**A Case of Asymmetrical Bilateral Herpes Zoster.** CHARLES A. MOBLEY, p. 879.

Mobley reports a case of bilateral zoster. The first outbreak involved the left facial and posterior auricular nerves. Twenty-four to thirty-six hours later,

zoster developed along the course of the intercostal nerve at the right seventh interspace.

**Practical Application of the Roentgen Ray in the Management of Malignant Growths.** CLARENCE EDWARD SKINNER, p. 844.

Skinner writes of the X-ray treatment of malignant tumors. X-rays are the method of election in cutaneous cancer. In cancer of the mucous membranes, however, X-rays should only be used after surgical extirpation. In subcutaneous cancer, X-rays are not to be used exclusively, but in association with surgery. Extirpation first and then Roentgenization is the author's advice.

(*Ibidem*, Sept. 21, 1912, lix, No. 12.)

**High-Frequency Desiccation, Fulguration and Thermoradiotherapy; their Uses in Therapeutics.** WILLIAM L. CLARK.

Clark describes the method of using high frequency desiccation, fulguration, and thermoradiotherapy. The first is an effect produced by the application of an electric current of high tension. The method of using it is described and its application to warts, moles, vascular nævi, pigmentations, varicose ulcers, acne, bladder growths, superficial epitheliomata, and other conditions is recommended. Fulguration, devised by de Keating-Hart of Paris is a method whose action is not accurately known. It probably produces an alteration of nutrition in the tissues so that the soil is rendered less fertile for the proliferation of cancer cells. Thermoradiotherapy, devised also by de Keating-Hart, aims to increase the efficiency of X-rays by changing the temperature of the skin; *e.g.*, cracked ice applied over the skin is said to counteract the dermatitis produced by the rays. By diathermy, a high frequency process which causes heat to reach deep into the tissues, deep structures can be reached by X-rays. The method is still in the experimental stage.

**A Case of Sporotrichosis in North Dakota: Probable Infection from Gophers.** G. M. OLSON, p. 941.

Olson reports a case of probable sporotrichosis. The primary lesion was a boil-like lump on the dorsum of the right hand, which later formed an ulcer. Extension took place in the usual way, and three nodules appeared on the right forearm. Cultures showed a branching mycelium and oval spores which were thought to be the *Sporothrix Schenckii*.

Under tincture of iodine locally and potassium iodide internally, the lesions nearly disappeared in about ten days. The infection was thought to originate from gophers, many of which the patient had killed and which showed similar lesions.

(*Ibidem*, Sept. 28, 1912, lix, No. 13.)

**The Treatment of Leukæmia and Pseudoleukæmia with X-Rays.** ALFRED STENGEL and H. K. PANCOAST, p. 1166.

Stengel and Pancoast have treated forty cases of leukæmia and numerous cases of pseudo-leukæmia with X-rays. In the former disease X-rays are now applied over the bones instead of over the spleen as formerly. While unable to prove that leukæmia is permanently cured by X-rays, the general results are superior to any other mode of treatment. X-rays are contraindicated in acute leukæmia.

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In Hodgkin's disease the radiations are directed to the local enlargements. While the patients ultimately die, the general effect of X-rays is toward prolonging life for years.

### **Roentgen Treatment of Non-Malignant Lesions.** RUSSEL H. BOGGS, p. 1170.

Boggs writes of the effect of X-rays in a large number of cutaneous lesions. Among the diseases treated with benefit are eczema, psoriasis, lichen planus, lupus erythematosus and lupus vulgaris. X-rays are not satisfactory for the permanent removal of hair. As an epilating agent in favus and ringworm they are advised. In acne vulgaris and rosacea and in hyperidrosis, X-rays are of great importance. Keloid and hypertrophic scars also yield to X-rays. A careful selection of appropriate cases is urged.

### **A Clinical Note on Hyperidrosis Circumscripta.** RICHARD L. SUTTON, p. 1193.

Sutton reports a rare and interesting case of hyperidrosis circumscripta affecting the inner extremity of the left eyebrow in a boy six years old. X-rays brought about such marked improvement that a permanent cure may eventually be expected.

(*Ibidem*, Oct. 5, 1912, lix, No. 14.)

### **The Administration of Salvarsan in Syphilis.** JOHN A. FORDYCE, p. 1231.

Fordyce, in an interesting article, reviews in the light of personal experience the entire subject of the administration of salvarsan. In previous years, before the introduction of the Wassermann reaction and salvarsan, probably not more than 20% to 25% of lues were cured. Second infections with lues were rare because cures were uncommon.

The so-called provocative injection of salvarsan is mentioned. If any latent infection remains after apparent cure, the injection of salvarsan will produce a transient positive Wassermann reaction.

Few patients are actually cured by perfunctory treatment such as the routine administration of protoiodid pills.

The author strongly advocates the intravenous method of administration. One of the strongest points in the superiority of salvarsan over mercury is the possibility of preventing, in the primary stage, the development of secondaries and a positive Wassermann reaction, and of apparently eradicating the disease.

Serologic observations, however, should be carried on for at least a year after the first negative reaction has been obtained and, when practicable, a provocative injection should be given. There is no objection to the excision of the chancre when favorably situated. In the secondary period, five or six doses of salvarsan may be given at intervals of one to four weeks, followed by mercurial injections or inunctions.

It is thus possible to cure the disease in from six months to one year. As the disease grows older, it becomes harder to eradicate. Ten or twelve injections of salvarsan and several courses of mercurial injections may be required for cure. In a year, however, a cure may be expected, or at least the reaction may be made negative. Possibly there are cases where no amount of treatment will change the reaction. The rapid action of salvarsan is strikingly demonstrated in mucous membrane lesions and in malignant syphilis.

It must be borne in mind that 10% to 15% of the active late manifestations of syphilis give a negative reaction, so that the clinical picture should not be neglected. In diseases of the nervous system salvarsan should be administered with great caution. In cases with very positive serum reaction and lympho-

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cytosis of the cerebro-spinal fluid, salvarsan is indicated. With a negative reaction and absence of lymphocytosis, it can accomplish little. Neo-salvarsan is commented on favorably. In Fordyce's experience, salvarsan in proper cases is free from danger.

### The Relative Value of Mercury and Salvarsan from a Serologic Point of View.

HOWARD FOX, p. 1243.

Fox states that the ultimate effect of salvarsan on syphilis will only be known after years have elapsed. Great difficulties lie in the way of estimating the relative serologic action of mercury and salvarsan. One difficulty is that most syphilographers are using both drugs. In judging the action of mercury the records of twenty-one observers and 1,634 cases are submitted. Of these, 64.8% give negative Wassermann reactions.

In the case of salvarsan great discrepancies were noted on account of differences of mode of administration, etc. Thirteen observers treated 987 cases with an average of 47.4% negative Wassermann reactions. No positive conclusions can yet be drawn as to the relative value of the two drugs. The abortive treatment of syphilis by salvarsan promises favorable results. Eleven observers have reported on 369 cases with the production of negative Wassermann reactions in from 20% to 100%. In general, salvarsan shows a decided superiority over mercury in primary syphilis. In the later stages neither remedy as yet shows any decided advantage.

### The Proper Places of Mercury and Salvarsan in the Treatment of Syphilis.

ABNER POST, p. 1240.

Post discusses the relative value of mercury and salvarsan. Syphilis is not a self-limited disease. Reports of cases after a few months' observation are to be accepted with caution. While the value of mercury is proved by unlimited clinical experience, it is too often a disappointment as an absolute cure for syphilis.

The iodides, too, are wonderfully efficacious, but fall short of a lasting cure. While salvarsan has not fulfilled its original promise, it is marvellously efficacious. While a few deaths and considerable tendency toward cranial nerve involvement have been reported as the result of salvarsan, it must be remembered that deafness and other symptoms of nerve involvement are due also to syphilis. The natural history of syphilis must be again carefully considered before the evil effects of salvarsan are pronounced upon.

Salvarsan gives promise of aborting the disease before the secondaries. The dictum now to be emphasized should be, "The earliest possible diagnosis should be followed by energetic treatment." In secondary syphilis both mercury and salvarsan should be used. In late destructive lesions iodide should be added. The treatment of congenital syphilis is a fruitful subject for study.

Post has seen great improvement in keratitis. The apparently healthy mothers of luetic babies should also receive treatment, as serology has demonstrated their luetic status.

### Anaphylaxis to Salvarsan. HOMER F. SWIFT, p. 1236.

Swift details interesting experiments with guinea pigs, undertaken to investigate the development of anaphylaxis in salvarsan administration. It has been noted that after repeated administration of salvarsan, certain patients show symptoms of a respiratory and vasomotor nature like those seen in anaphylaxis. The investigations were of a positive nature. Guinea pigs, which have been

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sensitized by the injection of a mixture of guinea-pig serum and salvarsan, and have been injected after a time with the same mixture, show anaphylactic shock.

**Identification of *Spirochæta Pallida* in Culture.** HIDEYO NOGUCHI, p. 1236.

Noguchi identifies *spirochæta pallida* in culture by (1) correct morphology; (2) necessity of sterile fresh tissue in culture medium; (3) anærobiosis; (4) faint nazy growth; (5) luetin reaction; (6) complement fixation; (7) pathogenicity.

Certain other spirochete varieties are difficult to differentiate. Noguchi has observed many minute, highly refractive granules in cultures growing under unfavorable conditions, while the *spirochætæ* were few in number.

**The Teaching of Syphilis. The Attitude of Hospital Boards to this Disease.**

WILLIAM THOMAS CORLETT, p. 1248.

Corlett emphasizes the need of more exact and complete instruction in syphilis. He advocates a special department for syphilis in medical schools where knowledge of the disease in all its phases may be taught. If a special department cannot be had, the disease should be given over to the dermatologist.

**The Intensive Treatment of Syphilis.** HOMER F. SWIFT and A. W. M. ELLIS, p. 1252.

Swift and Ellis insist on the efficient treatment of syphilis. Based on Wassermann findings, they conclude that one-half of all patients are insufficiently treated. Syphilis should be diagnosed early by the finding of the *spirochætæ* by the dark-field, india ink or Giemsa stain. In the third to fifth week after infection, or about the time of the appearance of the initial lesion, 40% of cases give a positive Wassermann. In the next three weeks 75% react positively before the secondaries. With salvarsan the abortive cure of syphilis is hopeful.

Gennerich reviews 159 cases. 104 of these were treated before the Wassermann reaction became positive, and only 11% showed subsequent relapse. Fifty-five were treated after the Wassermann reaction became positive, but before the secondaries, and 27% relapsed. Salvarsan alone is not as efficacious as when combined with mercury. A reliable rule is to give 0.3 to 0.5 gm. salvarsan at intervals of five to seven days intravenously, combined with mercury intramuscularly, in the form of an insoluble salt. In the primary stage, before a positive Wassermann reaction, one such course may be given; with a positive Wassermann, two courses of salvarsan and one of mercury; after the outbreak of the secondaries, at least two courses of salvarsan and three of mercury are advised. Hospitals and dispensaries should be equipped for the better treatment of syphilis.

**The Importance of the Early Diagnosis of Syphilis.** RICHARD DEXTER and

CLYDE L. CUMMER, p. 1254.

Dexter and Cummer emphasize the importance of the early recognition of syphilis. The dark field illuminator furnishes the easiest method of finding the organisms. Of 22 cases of chancre, in 17 the authors found *spirochætæ* in the first four weeks. Of 48 cases having chancre, 50% gave a positive Wassermann reaction in the first week after its appearance, 65.5% in the second week, 81.2% in the third week and 87.5% in the fourth week. From the fifth to the eighth week 100% showed positive reactions. These two diagnostic measures supplement each other, and if both tests are performed at the same time, a definite opinion may usually be given as to the presence or absence of syphilis.

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### Comparison of Normal and Syphilitic Extracts by Means of the Wassermann and Epiphanin Reactions. ALBERT KEIDEL and S. H. HURWITZ, p. 1257.

Keidel and Hurwitz discuss the different views held by various investigators as to the nature of the Wassermann reaction. They have carried out interesting and highly technical investigations to obtain evidence on this point by means of the epiphanin reaction. This reaction and the principles underlying it are carefully described. The paper as a whole is of a highly scientific character. Some of their conclusions of general interest are:

1. The investigations seem to show that luetic and non-luetic extracts are not entirely equivalent in the performance of the Wassermann reaction.
2. Comparative titrations show that luetic extracts are superior.
3. By means of the epiphanin reaction it is possible to demonstrate in serums the presence of antibodies specific for a given antigen.
4. The same reaction will demonstrate the presence of antibodies in luetic serum.
5. These antibodies are probably directed against substances found only in the extracts of luetic tissue.

### The Luetin Reaction. HIDEYO NOGUCHI, p. 1262.

Noguchi summarizes his previously published views on the luetin reaction and states that in the last year many observers here and abroad have confirmed them.

The facts established are as follows: 1. The luetin reaction is specific for syphilis. 2. The reaction is present in the majority of cases of tertiary, latent and hereditary syphilis. 3. It is less constantly present in primary and in secondary untreated cases. 4. It is present in most treated secondary cases. 5. In paresis and tabes the reaction is inconstant, but has been positive in sixty per cent. of cases. 6. In certain cases of tertiary and hereditary syphilis the control may react as strongly as the luetin inoculation site. 7. The condition of the skin which gives luetin reaction remains but little influenced by the antisyphilitic treatment, although a positive reaction can no longer be obtained in some cases which had been thoroughly treated and believed to be cured.

### Secondary Syphilitic Meningitis. ARTHUR W. M. ELLIS, p. 1263.

Ellis calls attention to the fact that the advent of salvarsan has attracted special attention to luetic meningitis. The relative frequency of early secondary meningitis with and without salvarsan therapy is an open question.

Various authors are quoted who have reported widely varying observations on this point. Ellis reports six cases of secondary syphilitic meningitis, all of whom had salvarsan. In four cases, nerve symptoms were already present before salvarsan had been given, and in two cases even before the appearance of the secondaries. In four cases, although the indications pointed to an active meningitis having been present some months, there were no obtrusive symptoms, and only lumbar puncture revealed the nature of the process. Ellis concludes that the contention that salvarsan predisposes in any way to the development of nerve lesions has not yet been established.

### Extensive Dermatitis Medicamentosa from Midol. PAUL E. BECHET, p. 1289.

Bechet reports an interesting case of dermatitis medicamentosa from the use of midol which contains pyramidon. The eruption consisted of erythematous and papular lesions, wheals and purpuric lesions on the legs. Severe itching accompanied the rash.

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**Anuria Following the Intravenous Administration of Salvarsan.** GEORGE R. LIVERMORE, p. 1290.

Livermore reports a case of anuria followed by albumen and casts in the urine, due to salvarsan injected intravenously.

**The Value of the Four Reactions in the Diagnosis and Treatment of Syphilitic Diseases of the Nervous System.** C. R. BALL, p. 1272.

Ball advises the use of four different reactions in the diagnosis of nervous lues. These are:

1. Nonne's ammonium sulphate reaction for determining the increase of globulin in the spinal fluid. 2. The determination of lymphocytosis in the spinal fluid. 3 and 4. The Wassermann tests in the blood and spinal fluid.

These tests are described and commented upon with illustrative cases. A year's experience with these tests has convinced the author that when the tests are all negative, syphilis can be excluded and *vice versa*.

**A Case of Extensive Brain Disease from Endarteritis, Probably of Syphilitic Origin.** SAMUEL T. ORTON, p. 1275.

Orton reports an interesting case of fatal brain disease with necropsy, due probably to lues, but in which the microscopic examination failed to reveal evidence of its specific nature.

**A Simple Apparatus for Administering Salvarsan Intravenously.** JAMES HAMILTON, p. 1287.

Hamilton describes an apparatus for the intravenous administration of salvarsan. It consists of two bottles containing the salvarsan solution and salt solution respectively. The connections of rubber tubing, etc., are the same as in the original and familiar Weintraud-Assmy apparatus. The original point of the author's apparatus is in the inversion of the bottles at the time of administration, which permits of the exclusion of air bubbles from the apparatus. The cost is low. A cut is appended.

**Four Years' Experience with the Wassermann Reaction in Practice.** B. C. CORBUS, p. 1267.

Corbus reports upon forty-eight cases of syphilis which have been under observation for from eleven months to one and one-half years. All have had two or more injections of salvarsan, and in addition mercury rubbings and potassium iodide. All but four now have a negative Wassermann reaction, which has persisted for from a few weeks to one and one-half years. All but two are without symptoms. The salvarsan was administered intravenously and intramuscularly. The suspension in oil intramuscularly seemed to be the least efficacious. Corbus now uses the following plan of treatment.

In primary syphilis, whether the Wassermann reaction is negative or positive, an intravenous injection of 0.6 salvarsan is given, followed in four or five days by 0.6 intramuscularly; then two months of continuous mercury rubbings, followed by two more intravenous injections, two weeks apart. This he deems sufficient for a cure.

In secondary and tertiary syphilis, two intramuscular injections are given. All subsequent salvarsan treatment is given intravenously, alternating the injections with mercury rubbings, fifty in a series.



The Wassermann reaction offers the best guide as to prognosis. Results can be obtained with mercury alone and with salvarsan alone, but more quickly with the combined method. Treatment should be continued during the negative phase if we wish for a permanent result.

(To be continued.)

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## BOOK REVIEW.

### **Kompodium der Roentgen-Therapie (Oberflächen und Tiefenbestrahlung).**

Von DR. H. E. SCHMIDT, Berlin. Third revised and improved edition with eighty illustrations. *August Hirschwald, Berlin, 1913.*

In this, the third edition of his handbook on radiotherapy, Schmidt has succeeded in presenting the subject in a clear, concise and comprehensive manner, leaving little to be desired as far as usefulness is concerned; after a perusal of his work one is convinced that, from a purely practical standpoint, the subject of radiotherapy, especially in the field of dermatology, has been scientifically and thoroughly dealt with, and that his methods of procedure, his judgment in the important question of X-ray dosage and his deductions and conclusions for and against the use of radiotherapy in dermatology, may be thoroughly relied upon by those who are engaged in this kind of work, or who intend to take it up in the future. That does not imply that a man who has had no previous training in either dermatology or radiology may, after imbibing and absorbing the contents of this compendium, set out forthwith to treat any and every cutaneous disorder with impunity; for in the comparatively narrow field of dosage measurement alone, a large amount of judgment, which can be acquired by experience only, is an essential to successful treatment; and no amount of reading or of mere book-knowledge can take the place of actual experience in this phase of the work.

As in the previous editions, the work is divided into two main parts; the first dealing with apparatus, instruments to measure the quality and quantity of the rays, methods of controlling the stability of the rays, the significance of the quality of the rays in reference to direct dosage measurement and the care of X-ray tubes. The second part deals with the therapy of cutaneous diseases and of the use of the Roentgen rays in surgery, gynecology, ophthalmology, etc. A part of this section describes the effect of the rays on the various tissues of the body; radiodermatitis, including X-ray carcinoma, is discussed at length; then follow the technique of dosage, the methods of superficial and of deep administration, the forensic significance of X-ray injuries, the hygiene of the operating room, etc.

The second half of the section is devoted to a detailed presentation of the various disorders amenable to radiotherapeutic procedures. This includes a long list of cutaneous disorders, nearly all of which are now recognized as being especially sensitive and submissive to the action of the X-rays; among these, the author includes pityriasis rosea, an affection which usually submits to ordinary therapeutic measures; radiotherapy is not recommended, except in very extensive cases, in hypertrichosis, and when it is used in such cases, only hard tubes should be employed. Some skin diseases, in which excellent results have been obtained by means of radiotherapy, have not been mentioned; for example, Darier's disease and keratosis palmaris et plantaris. The author has had some good results in cases of nævus flammeus and lupus erythematosus; in sarcoma the results were

variable, some cases responding favorably and resulting in cures, others proving quite refractory to treatment.

As is unfortunately the case with most of the German paper-bound books, this specimen also is no exception to the rule, for its binding is execrable.

F. W.

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### NECROLOGY.

DR. PRINCE A. MORROW.

As we go to press we receive the sad news of the death of DR. PRINCE A. MORROW.

DR. FRANK SCHULTZ.

DR. FRANK SCHULTZ died suddenly in Berlin on January 6, 1913. He was Privat-Docent and Physician-in-chief of the Department for Light Treatment at the Royal University Polyclinic for Skin Diseases. His work in light-therapy and radiotherapy has given him world-wide renown.

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### NOTICE.

#### CONGRESS OF THE GERMAN DERMATOLOGICAL SOCIETY.

The next Congress of the German Dermatological Society will take place in Vienna on the 19th and 20th of September, 1913, immediately preceding the meeting of the German Association of Scientists. Addresses which are not presented at the Congress may be presented at the Section Meetings of the Scientific Association. For information, apply to either Prof. Ehrmann, Wien IX, Kolingasse 9, or to Prof. Neisser, Breslau xvi, Fürstenstrasse 112.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

MAY, 1913

NO. 5

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## EDITORIAL.

### SHOULD DERMATOLOGY BE A THIRD OR FOURTH YEAR STUDY?

**T**HIS question could with equal propriety be asked regarding the teaching of any of the medical specialties, for when one reviews the vast amount of work a student must accomplish in the four-year medical course, the ever-increasing necessities for the successful grounding in the essentials, one wonders how one small brain can ever receive and retain all the student is expected to know before he can obtain his medical degree.

The ideal way to teach the specialties would be to have them all taught in a compulsory post-graduate course and after one or more years of internship in a hospital.

But this way is entirely too idealistic to ever be possible, for the average man has not the time to give to this elaborate preparation and of necessity must in his four-year course receive more or less instruction in all of the specialties, including dermatology; for as Dr. Corlett says in an editorial in the October issue of *THE JOURNAL*, "There can be no doubt that dermatology enters into the essentials that every family doctor should know," and if he has not received considerable instruction in this branch he is bound to be handicapped in accomplishing his work as a general practitioner.

This brings us to the question under discussion, in which year is it best to begin dermatological instruction, the third or fourth? From the writer's experience the answer could be summed up in one word, both.

It is the policy of most of the modern medical schools to devote the fourth or senior year wholly to clinical instruction, consequently it would be difficult to teach clinical dermatology to a senior student unless he had had some previous instruction in the essentials of this branch.

In spite of the danger of still further crowding an already overcrowded curriculum it would seem that the teaching of this or any other specialty should be begun in the third year and continued through the fourth; two years is but a short time to devote to dermatology, for on the immediate and correct diagnosis of skin disease depends so much that is vitally important to both society and the family.

The course in the third year should be didactic and laboratory work and the latter should be taught by one who is an expert in cutaneous pathology and bacteriology.

The lectures and instruction should extend over the whole college year and then, at the advent of his senior year, the student will be fully acquainted with the essentials necessary to enable him to intelligently comprehend the clinical significance of at least the simpler and more common cutaneous disorders.

The instruction in the fourth year should be wholly clinical and the teacher should endeavor to show as large a number as possible of the more common variety of skin diseases, for upon the ability to correctly diagnose and treat eczema, psoriasis, etc., depends the dermatological success of the general practitioner.

If the student's mind is well trained in dermatological essentials during the third year and his eyes likewise trained to observe during the fourth year, we will not have any general practitioner giving "arsenic for impetigo" nor the surgeon persistently "excising syphilitic gummata."

JAMES MACFARLANE WINFIELD.

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### A CASE OF ACANTHOSIS NIGRICANS.

By HERMANN G. KLOTZ, M.D., and GEORGE L. ROHDENBURG, M.D.,  
New York.

THE case of acanthosis nigricans to be reported here was briefly described when the patient was presented before the New York Dermatological Society by Dr. Klotz (*Jour. Cutan. Dis.*, Aug., 1911, xxix, p. 436), and was also mentioned in the discussion of Dr. C. J. White's case before the American Dermatological Association (*Ibidem*, 1912, xxx, p. 184). Nevertheless, it seems justified to publish a more complete record of the case, partly because the disease has still to be considered a rare one, partly because we had the

opportunity of following up its history to the death of the patient. He was principally under the observation of Dr. Rohdenburg, who has furnished most of the data.

#### CASE REPORT.

Mr. H. A., 64 years of age, born in Germany, married and father of several healthy children, was always moderate in eating, drinking and smoking; about a year ago he retired from his business as a haberdasher. As a child he suffered from swelling of the glands of the neck, which made several operations necessary. Soon after his arrival in America at the age of 16, this trouble entirely ceased and he has generally enjoyed fair health except that twenty-two years ago he was operated on for an abscess of the appendix. There has always existed a tendency to constipation of the bowels. About five years ago he experienced a fall on the buttocks which laid him up for several weeks, although no bones were fractured.

Early in 1910, the patient first noticed a change in the color and condition of the skin of the hands; then, during the summer, the scalp became very itchy, accompanied by thinning of the hair and dryness of the mouth. Later on, pigmentation of various intensity and roughness of the surface of the skin developed on different portions of the body, principally on the neck, in the axillæ, the genital and anal regions and on the extremities. Lately, the affection of the mouth has become much more aggravated so that sour articles of food caused great pain and had to be entirely discarded. On July 23rd, 1910, the patient was first seen by Dr. Rohdenburg. The diagnosis of Addison's disease had been made by an osteopath and the patient had been told that he would not have long to live. The result of a very careful examination by Dr. Rohdenburg did not point to adrenal disease, particularly on account of a comparatively high blood pressure and the absence of diarrhoea and of loss of strength.

Mr. H. A. appeared as a thin, poorly nourished man, looking much older than the given age; the scalp but thinly covered with hair, presented several pigmented areas similar to those to be described on the hands. The eyes were practically normal, the vision being perfect with proper glasses, and the pupils reacting normally to light and distance. The ears and nose were normal. The tongue was thick, fissured and showed scattered over it, small wart-like formations which could be pulled off without leaving bleeding surfaces. The pharynx was normal except for a slight congestion about the root of the tongue. The thorax, heart and lungs were normal; the reflexes were normal; the musculature was weak. On the palms and backs of the hands the skin was rough, like the skin of a shark, and was pigmented in shades from light brown to almost black. Within the pigmented areas the same wart-like projections were seen as on the tongue. Areas of similar type were scattered over the arms and legs. Around the genitals and the anus this pigmentation was very marked and the warty growths were very numerous. The abdomen was negative. The rectum was negative both to touch and to the proctoscope. The urine showed a faint trace of albumin and an occasional hyaline cast. The blood showed a slight secondary anaemia, the white cells being normal both in total number and on differential count. The sputum and stools were negative. The gastric contents were not taken.

From November 26 to December 10 the patient suffered from a severe attack of tonsillitis. His general condition was unchanged. No mass was palpable in the abdomen or rectum. On Jan. 30, 1911, the eruption about the genitals was more marked. The patient complained of pain in the right shoulder and in both feet and over the eighth rib on the right side, which continued more or less to March 1st. There were varicosities on the right leg which had been

present for a long time and which became much more pronounced. The bowels were regular. The abdomen was negative. A complete physical examination on March 11th including sputum, blood, urine and stool, also rectal examination with the proctoscope, gave absolutely negative results.

On March 9, 1911, the patient was first seen by Dr. Klotz and on March 28th he was presented before the New York Dermatological Society. At that time the scalp showed only a very thin growth of hair, the skin itself was very dry but not scaly, of a dark bronze hue, and here and there small wart-like prominences were visible. The latter appeared in greater numbers, some resembling senile warts, on the face, where the pigmentation was also more intense. Similar nodules surrounded the borders of the lips and extended to the mucous surfaces of the mouth. The tongue was very dry with accentuated and partly elongated papillæ and more or less deep fissures. On the neck the most intense pigmentation prevailed, with certain changes of the skin extending symmetrically over a not sharply defined area, to the lateral portions of the neck and to the back. As could be seen in the more recently affected, peripheral portions, these changes evidently began with the more pronounced development of the natural fissures and ridges; the surface became dry, rough and brittle and felt like a gridiron to the touch. In the older, central portions the entire skin appeared considerably thickened, owing to an increased development of the papillary layer of the cutis and particularly to a similar increase of the horny layer of the epidermis. Within these regions the pigmentation was very deep and there could be seen numerous small, oval, round or polygonal, papillary elevations, closely arranged in rows and separated by deep fissures. On the trunk and on the extremities pigmentation was not generally increased except on certain circumscribed areas which showed conditions similar to those on the neck, but in a lesser degree, according to the time of their development. The axillæ, the inner aspects of the upper parts of the thighs, the flexor surfaces of the knees and, more recently, the extensor surfaces of both elbows were involved. On the dorsal surfaces of both hands there were numerous irregularly distributed, warty growths. Over the dorsal aspect of the articulations between the first and second phalanges, areas of the size of a quarter showed dense conglomerations of elongated papillæ. There was no scaling present on any of these parts. The nails were not affected.

Not as a specific, but as a general tonic the patient was advised to take arsenic and iron with a daily cathartic; as he complained of the most intense itching, Unna's ointment of the oxide of zinc with carbolic acid and bichloride of mercury was prescribed. On March 27th Dr. Rohdenburg found that the patient had considerably gained in weight and felt stronger than in months. The itching had almost entirely disappeared. To use the patient's own words "he had not felt as good as now in two years, and if it were not that he was looking like a negro, he would not go to see a doctor." He had previously made arrangements to go to Europe and to try Karlsbad. He sailed on April 7th and returned on August 17th; he had been treated in Karlsbad with injections of arsenic. A physical examination at this time revealed a mass about the size of a very small egg, vaguely defined and with no rigidity, at the upper end of the sigmoid, but with the proctoscope nothing could be seen; radiographic examination showed a vague shadow in that region. There was marked constipation. Further physical examination proved negative; anæmia not more marked; condition of the skin about the same as previously described; itching only moderate. A definite diagnosis of tumor of the gut was made; operation was refused. On September 21st a mass as large as a big orange was felt in the abdomen. Nodules as big as a lima bean had appeared in the skin of the right arm just below the elbow, of the left arm over the deltoid and in the epigastric region. On October 18th the Wassermann reaction was negative; on November 4th ptosis of the left eyelid occurred. A diagnosis of carcinoma of the sigmoid was finally made. The patient died in coma on Jan. 23, 1912.

## AUTOPSY.

The autopsy was performed by Dr. Rohdenburg. Male, 5 feet 4 inches in height; corpse was very much emaciated; there was exophthalmus of the right eye. Nodules varying in size from a lentil to a pigeon's egg were scattered over the body, mostly on the arms, legs and abdomen; the lymphatic glands were not enlarged. The skin of the hands, face, head, axillæ, pubes and anus was almost black and covered with a varying number of small, wart-like growths which could easily be removed from the skin and were apparently superficially attached. The head was not opened. Thorax: entire chain of mediastinal glands enlarged and matted together. The heart was negative. The lungs were emphysematous and contained many nodules of varying size scattered throughout them, evidently metastatic growths from a primary tumor in some other place. There were about two pints of sanguinous fluid in the abdominal cavity. The liver was riddled with metastases. The kidneys showed metastases, but the spleen and adrenals were normal. The prostate was normal. The stomach and small intestines were normal. Commencing at the splenic flexure and extending down to the beginning of the rectum was an oval mass adhering to the surrounding structures. On dissection this mass was found to involve about one-half the circumference of the large intestine, but did not completely encircle it. A section made through the mass showed that it did not impinge on the lumen of the gut, but extended into the mesocolon and sigmoid. There were gross metastases in the mesenteric lymph nodes.

The microscopical examination of the tumor showed a small spindle-celled sarcoma. The skin tumors as well as the metastases in the various organs showed the same tumor type. Of the skin itself no microscopical examination was made.

The case confirms the general experience that in elderly patients acanthosis nigricans is always associated with some malignant tumor of some of the abdominal organs. The unusual location of the primary tumor is of interest and explains why it remained undiscovered until a late period.

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## EXTENSIVE TUBERCULOSIS CUTIS WITH DEATH FROM PYLEMIA: REPORT OF A CASE.

By HENRY KENNEDY GASKILL, M.D., Philadelphia.

Assistant Dermatologist, Jefferson Medical College Hospital and  
Philadelphia Hospital.

IN looking over the voluminous literature that has been written about tuberculosis of the skin, one cannot help but be impressed by the fact that little reference is made to its ultimate results. Mortality is rarely discussed and, while in all the text-books and in many of the papers the question of its association with tuberculosis of the lungs and other organs is mentioned, the authorities vary so

greatly that the statistics are of little benefit. For instance, Block says that seventy-five per cent. of his cases of lupus are tuberculous in the full sense of the word; others claim only five per cent., and still others give no percentage whatever. It is very probable that with many cases of low percentage the fault lies largely in the fact that a routine examination of the body is rarely carried out in dermatological cases, especially in dispensary work, from which most of the statistics are taken. If a careful examination of the lungs were made on every patient with skin tuberculosis, the probability is that while the percentage would not be as high as claimed by Block and others, it would be fully forty per cent.

Occasionally, a patient with this condition is brought to the autopsy room, and in spite of a more or less generalized involvement and with no physical signs upon percussion and auscultation, a healed-in focus will be found that may have been active long before the time of the external manifestation. If there is no lung involvement, the patient may run the usual course of life and be subjected to the same diseases as one not so affected, but that patients with tuberculosis cutis are subjected to an added danger is a fact of which little is recorded—it is simply taken as a fact.

In speaking of the complications, Crocker says that "on the limbs secondary inflammatory accidents are more likely to occur than on the face, but not until some years' duration of the disease." Abscesses, periostitis, necrosis and, to quote again from Crocker: "Erysipelas and lymphangitis are liable to occur at any time and all these inflammatory complications may eventually, by the consequent obstruction to the lymphatic and blood flow, lead to elephantiasis of the legs, but very rarely of the arms. In Fischer's case, dermatolytic tumors formed on the thighs from similar causes. Some of the cases of acute lupus get attacks of recurrent lymphangitis, which, if not actually erysipelas, are indistinguishable from it, except that they seem to lead to extension of the disease instead of its involution. Kaposi has called it *erysipelas perstans*, but it is now regarded as a tuberculous lymphangitis and may be the sole manifestation of tuberculous infection." Leloir has shown that this lymphatic enlargement is often a real infection with the tubercle bacilli and not merely a swelling, the result of irritation. In my case, as shown by the history, there was marked elephantiasis and the attacks of erythema, while under my care, bore no resemblance to erysipelas, as there were no sharp lines of demarcation and the color was not so intensely red as is usually the case in true erysipelas, but was, undoubtedly, a more or less generalized lymphangitis. The tubercle bacilli produces a toxine,



as does the vast majority of other bacteria, and this in itself may be the direct cause of death—a generalized septicæmia, or pyæmia. It can be readily understood how an extensive tuberculous involvement of the body, with its ulceration, degeneration, caseation, or necrosis, could become sufficiently toxic to the body to produce death. It is more to be wondered that such an ultimate result is not more common, considering the lowered vitality of a patient suffering from this disease, the increased liability to infection and frequently the lack of hygienic surroundings. The latter, if nothing else, should be in a large majority of cases sufficient to produce a rapid spreading of the disease. The lack of knowledge of personal hygiene and the utter indifference to even necessary cleanliness among a certain class should be adequate to cause a rapid extension of any disease which may attack its members. A pyodermic infection, unless it cause discomfort or is on the hands and face, may go indefinitely without treatment and, again, a person of this type, who has a chronic eruption on some part of the body where it will not show, becomes tired after several years of unsuccessful treatment and, thinking nothing more can be done, gives up in disgust and lets the disease have full sway.

The report of the following case is to support this conclusion, for while the patient was not entirely of the latter type, being quite intelligent, yet after almost two decades she was indifferent and discouraged. She was under my care for several months, the history is clear for several years and the careful post-mortem failed to elicit any other pathological conditions that would produce death—slight atheroma of the cardiac valves and slight nephritis were not in themselves capable of producing death, though probably added factors.

It is to be regretted that the patient objected to photographs being taken until it was too late to obtain a clear picture.

Kaposi in the last edition of his work on dermatology, 1895, makes the very remarkable statement that sixty-six per cent. of all dermatological cases are lupus (in Austria), while in this country it comprises only, according to the statistics compiled by the American Dermatological Society, 0.36 per cent. At this later date, however, it is quite likely that some of those so-called cases of lupus can be put in another category. At that time Kaposi was not willing to concede that the cause was the tubercle bacilli, though he acknowledges that that germ was found in several cases in his clinics and further states that many of his lupus cases died of pulmonary tuberculosis. It is interesting to note that he says: "The clinical character of lupus remains typical, even if it lasts fifty years or more in

the same individual. It is complicated by verrucosity, elephantiasis arabum, carcinoma and inflammatory and suppurative processes of the subcutaneous tissues, grouped under the collective term scrofulosis. Yet the lupus never changes its true clinical type. Although it has been said that transitions of lupus into cutaneous tuberculosis are frequent, I maintain that such a transition into true tuberculosis of the skin never takes place. We recognize, however, a true tuberculosis of the skin, which also possesses well-defined clinical characteristics and is distinguished from lupus as well as from other processes."

#### CASE REPORT.

B. T.; female; age, 37; weight about 180 lbs.; admitted to the hospital on Jan. 6, 1912.

**FAMILY HISTORY.**—Her mother died of cancer of the stomach; her father died of pneumonia; one sister succumbed to cerebral abscess; one brother is living and in good health.

**PERSONAL HISTORY.**—The patient had measles and whooping cough in childhood, and typhoid fever at seventeen. Eleven years ago she was in bed with gastric disturbance for eight months. Four years ago she had an ulcer on the face similar to the one now on the thigh and which was excised, leaving a perfect scar.

**PRESENT TROUBLE.**—Following a fall, when she was six years old, a reddish elevation appeared on the knee, which after a time broke down and drained pus; from this time until she was twenty-four years of age this process was limited to the knee, spreading only slightly by peripheral extension but healing over in the area first involved. At the age of twenty-four she developed sharp stinging pains in the left tibia; this pain was continuous and did not vary in intensity at different times of the day and was of several days' duration. Simultaneous with the onset of this pain she developed chills, followed in the course of several hours by a temperature of 103° F., which temperature remained seventy-two hours. When the temperature reached normal, a localized erythema appeared, first on the knee and later on different parts of the body; there was an associated burning pain, which would last for several days and was only relieved when the skin would exfoliate. These attacks would occur at intervals of from three to twelve months and she would feel perfectly well between them, except for the pain in the tibia, which has not been present the past six years. While she has continued having the attacks at irregular intervals, the temperature has not remained above normal so long.

In 1905 this patient was seen by Dr. J. T. Bowen, who presented her to the Boston Dermatological Society, and his account as it appears in *THE JOURNAL* is in part: "Bertha T., a clerk, age 31, was born in Pennsylvania. According to her story the lesion upon her cheek appeared shortly after vaccination, during her first year of life, and soon reached its present size, where it has remained unchanged ever since. At the age of seven she scraped her lower leg and during the following winter had a series of abscesses containing pus. These appeared on the leg, remained open until their disappearance during the next summer and returned in situ in the following winter. This cycle has repeated itself up to three years ago, when the present cutaneous lesions began to develop. At that time a red, angry, pea-sized papule presented itself on the left knee. This first lesion was followed by many others, which were painful, tended to coalesce and then disappeared leaving a red, atrophic skin in their wake.

"Three years ago, in the following summer, the leg suddenly swelled, accompanied by high fever, great pain, redness and chills. This acute attack lasted three days, leaving the patient weak and exhausted and producing a marked increase in the more superficial papular process, which then began to advance up the thighs. Subsequently, the acute deeper process recurred at intervals of three to five weeks and have persisted ever since. These attacks have all come on with the utmost suddenness so that at a moment of apparent health she would suddenly be seized by 'a terrible pain in the leg,' which soon became red and swollen and produced a feeling of intense malaise. These attacks have usually persisted for three days and then subsided, leaving 'lumps in the skin'.

"The patient entered the skin ward of the Massachusetts General Hospital on Nov. 7, 1904. At this time the measurements of the two legs were as follows:

	Left Leg.	Right Leg
Circumference at perineum.....	27.5 in.	24. in.
Circumference at knee.....	18.5 in.	16.25 in.
Circumference at calf.....	17. in.	15.5 in.

"The normal skin was smooth, of a good color and not boggy, but showed at frequent intervals abnormal areas varying in diameter from one-half to six inches, gyrate in outline, red and infiltrated. In addition, there appeared many brownish nodules, smooth, translucent, elevated or level with the surrounding skin, infiltrated and covered with conical scaling masses.

"Ten days after entrance the patient felt chilly, had a headache and pain in the left leg. The temperature rose suddenly to 103° F., the pulse to 120 beats per minute and the respirations to 37. The leg was apparently swollen, red and very painful, especially along the inner aspect. In 24 hours all evidences of this intercurrent malady, except the pain and a slight redness of the skin, had practically disappeared. The catamenia then began.

"When presented before the Society the patient exhibited a typical patch of lupus vulgaris upon the cheek. This area had improved considerably under the influence of eosin externally and the X-rays and exhibited much less infiltration. The left leg had also shown the benefit of rest and treatment and had decreased a good deal in size, but there were still marked nodules and deep infiltrations with hypertrophy of the horny layer. There were few typical lupus nodules to be seen."

On January 16, 1913, while in the Jefferson Hospital, at eight A. M. the temperature was 98° F. and the pulse 73. At one P. M. she complained of chilly sensations followed by a severe chill; at four P. M., temperature 103° F. and pulse 120. This temperature and pulse were maintained until the eighteenth, when during the night she felt a burning sensation in the left buttocks; this burning sensation extended down the thighs and up the back and in a few hours was followed by an erythematous eruption covering the entire back and the parts were very sensitive to the touch: in the course of the day this became slightly papular, but still very red and with no areas of healthy tissue between; at the edges it faded off gradually and the color could be expressed at the slightest touch. At the end of four days the eruption had entirely disappeared though the skin was very sensitive to pressure for a week afterwards.

PHYSICAL EXAMINATION ON ADMISSION.—The pupils are equal and react to light and accommodation; the tongue is moist and covered with a grayish fur.

Chest.—Expansion is good and equal on both sides; at this time and at many repeated examinations, auscultation and percussion showed nothing abnormal.

Heart.—The muscular tone is good and the action is regular; there are no murmurs.

Liver, spleen and kidneys are not palpable.

On the left cheek there is a smooth scar that followed excision six years ago. On the right thigh there is an ulcer-like lesion about  $1\frac{1}{2}$  inches in diameter with undermined edges and surrounded with an inflammatory zone, the centre discharging very slightly a thin, serous material. This was the remains of an abscess that ruptured spontaneously and discharged "almost a pint of pus" (This healed in about a month). Surrounding this, extending almost to the knee and upward to the lower ribs and less abundantly on the left side in the same relative positions, was a more or less scattered, papular eruption, in size varying from a quarter to three-quarters of an inch in diameter, irregular in outline, purplish in tint and in some cases sparsely covered with a yellowish scaling. There were areas of healthy skin between the papules, which were distinctly elevated above the surrounding skin. On the left tibia were areas of atrophy and of brownish pigmentation; on the right tibia this was present to a very slight degree. There was a marked difference in the size of the two legs, but as shown by Dr. Bowen's report not so much as formerly.

	Left Leg.	Right Leg.
Circumference at perineum.....	29. in.	29. in.
Circumference at knee.....	20. in.	16.5 in.
Circumference at calf .....	17. in.	16.5 in.
Circumference at ankle .....	9.5 in.	9. in.

Following the attack of erythema on the 16th of January, the patient seemed to improve; there was some slight flattening of the papules and she said she "felt perfectly well" though she spoke of losing weight. On the 21st of February she had another chill, followed in a few hours by a temperature of  $103^{\circ}$  F. Two days later, her body was covered with an eruption that differed in many respects from the last attack; it was much more extensive, extending from the lower border of the scapulæ to the knees posteriorly and from the umbilicus anteriorly, and the œdema was present to such an extent that the nodules were apparently flattened out; the skin was scarlet, glazed, seemed drawn and stretched in places and was exquisitely tender to the touch. We had great difficulty in making a thorough examination, as she objected not only to turning over but to being touched. There was marked headache with nausea and vomiting and complete anorexia.

The urine report of February 25th begins to show the kidney complication. As will be seen by the chart, the urine examination when she entered the Hospital was practically normal; after the first erythematous attack there was a slight trace of albumin and other signs of a low-grade nephritis.

The epidermis exfoliated at the end of a week and the papules and tubercles were seen to be in exactly the same state as before. The patient, however, was very weak and from that time became progressively worse.

A pelvic abscess developed and over four ounces of pus were evacuated. Careful examination was made of this pus but in the spreads and cultures nothing was found but staphylococci and streptococci. One week later an abscess developed in the right axilla, was opened, examined and found to be the same as the first one. From this time on she complained of vague pains and severe headaches; she slept very little at night and in the day lay with her eyes closed, taking no interest in the surroundings, though she could be aroused readily and would give intelligent answers. On the 28th of March it was discovered that there was an abscess in the right buttock, but her condition forbade any operative measures and she died on the 2nd of April, three months after her admittance to the Hospital.

The Wassermann reaction was negative.

## URINALYSIS.

	17 12	18 12	23 12	24 12
	(following attack)			
Color .....	amber	turbid	turbid	turbid
Specific gravity .....	1018	1016	1004	1001
Reaction .....	acid	acid	acid	acid
Albumin .....	none	trace	trace	decided
Sugar .....	none	none	none	none
Urea .....	1.5%	1.7%	7%	2.1%
Crystals .....	none	none	none	none
Urates .....	few	few	few	few
Epithelial cells .....	many	few	many	many
Leucocytes .....	few	few	many	many
Blood .....	none	none	few	few
Casts .....	none	few granular	few granular	granular
Amount of blood passed .....	1400cc.	1250cc.	positive 900cc.	positive 850cc.

## BLOOD EXAMINATION.

	20 12
Hæmoglobin .....	77%
Erythrocytes .....	10,200
Leucocytes .....	3,990,000
Color index .....	.9
Polymorphonuclears .....	70%
Lymphocytes .....	25%
Hyaline .....	5%

A nodule was excised under local anæsthesia, fixed in Heidenheim's solution and stained in various ways. The sections showed typical tuberculous lesions, giant cells, caseation and tubercle bacilli in comparatively large numbers. The discharge from the three large abscesses was examined repeatedly and growths showed nothing but streptococci and staphylococci in virulent culture.

**AUTOPSY.**—The body is that of a fairly well preserved adult female. Rigor mortis is present but easily broken up. There is a cutaneous eruption on the trunk, buttock, left leg and thigh. In the right groin and left axilla there are open wounds in the skin, through the subcutaneous tissue and which contain a small quantity of yellowish, turbid fluid. The probe may be introduced into the axillary wound for a distance of five inches.

The subcutaneous tissue contains an abundance of fat of bright-yellow color. Muscles are red and fairly well nourished. The peritoneal cavity is smooth and glistening and free from adhesions. The pleural cavities are smooth and glistening and have a few friable adhesions at the apices. There is a small quantity of clear straw-colored fluid in each pleura. The pericardium is smooth and glistening; there are no adhesions; the cavity contains a few cc. of clear straw-colored fluid. The heart is flabby; epicardial fat is abundant; the right auricle has a lining membrane which is smooth and glistening and contains a small amount of chicken-fat clot; the right ventricular wall is thin and easily punctured through; the lining is smooth and glistening; the pulmonary valves are pliable; the left auricle shows no gross lesion; the left ventricle is fairly firm and of a red color; the valves are slightly thickened at the base and show slight patches of atheroma. Lungs: the right lung crepitates throughout and cuts with normal resistance, the cut surface being grayish in color. In the right lung there is a small healed-in focus in the lower lobe, otherwise it is normal. The spleen is normal. The adrenals are normal. Kidneys: left, normal size, considerable adipose tissue,

grayish in color, cuts with increased resistance, capsule adherent; right, resembles fellow, save that the lesion is slightly more marked. Liver: somewhat small, smooth, irregular surface; gall-bladder extends 4 c. beyond the edge, incision meets with increased resistance, cut surfaces reveal a slight granular aspect.

Upon turning the body over a large abscess was found in the left buttock very close to the middle line. This broke as the body was turned and fully a half pint of yellowish, turbid material flowed out.

Unquestionably the attacks of erythema that at one time were so common and of which we saw the patient have three, were due to the absorption of toxic material in the same way that the toxins produced by eating putrid fish will cause attacks of erythema multiforma or urticaria, except that here the cause was autogenous. Later, as the attacks became more severe and the body resistance lowered, she was not able to combat them, pyogenic organisms found lodgment and the septicæmia of the earlier attacks became pyæmia with rapidly fatal results.

The writer wishes to express his thanks to Prof. Henry W. Stelwagon for the privilege of reporting this case, which was under his care in the Jefferson Hospital.

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## SOME DETAILS IN WASSERMANN TECHNIQUE.

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**T**HIS paper concerns itself with a few points in the technique of the Wassermann reaction which I believe deserve more attention from serologists than has yet been accorded them.

**A STANDARD SCALE.** The greatest difficulty in comparing readings from different workers is the lack of agreement upon a scale for recording strength of reaction. The strongest positive may be recorded as anything from + to + + + + +, the weak positive as +, ±, or ±±, so that the reader must always acquaint himself with the scale used before the report of any operator is intelligible. In a recent paper on the cobra venom reaction<sup>1</sup> the results were recorded in a scale just the reverse of this, "—" meaning "no hæmolysis," a strong positive, while + + meant complete hæmolysis, a frank negative. To obviate such confusion a standard should be adopted.

After our completed tests have stood in the ice-chest over night, our readings are mainly estimations of the degree of hæmolysis in the

<sup>1</sup> STONE and SCHOTTSTAEDT. *Arch. Int. Med.*, 1912, x, p. 8.

supernatant clear fluid. What is more reasonable, then, than to record the readings in percentage of hæmolysis, giving one immediately a mental picture of the appearance of the test and a constant standard of comparison? This standard is always to be had by laking in distilled water 1% of the same washed sheep's corpuscles used for the test and using this as the standard for 100% hæmolysis, reducing it with water in successive tubes to 90%, 80%, 70%, etc., down to 4%. This scale must, of course, always be freshly made. Readings are then made by comparing each test tube of the serum test and recording the percentage of hæmolysis.

That this standard will vary with the strength of red-cell suspension used by various workers, depending on the method of washing the corpuscles and computing a 1% emulsion, cannot be denied; but this variation is its strength, for it is always strictly comparative to the blood suspension used. One hundred per cent. will always mean full hæmolysis; 50%, 10%, etc., will always be strictly proportionate. Slight variations due to too-deeply colored complement or human serum must be guarded against, or if unavoidable, allowance for them can be easily made. This hæmoglobin scale of Thorwald Madsen was studied by Boas,<sup>2</sup> who found that 4% represents the strongest possible positive because of inevitable coloring from the sera and who, in a series of 1,064 non-luetic sera, found that 70% hæmolysis and over should be counted as negative. In the recording of over 700 serum tests this system has given me great satisfaction and I believe it would be a distinct gain to the literature of the Wassermann test and, indeed, of all complement binding reactions, if it were generally adopted.

For example, take some typical titrations of sera from various stages of lues:

	Amount of serum in cc.					
	0.2	0.1	.05	.025	.01	Control
1. Primary—4 weeks after infection .....	100	...	...	...	...	100
2. Primary—7 weeks after infection .....	50	70	100	...	...	100
3. Secondary florid, untreated .....	6	6	6	6	40	100
4. Secondary, after 90 inunctions 4.0 and 6.0 each .....	6	6	40	100	100	100
5. Same case after 15 injections bichloride....	6	50	100	100	100	100
6. Same after 60 more inunctions.....	100	100	...	...	...	100

**TITRATION OF ANTIBODY.** That titration of positive sera is essential for any close observation of variations in the strength of the reaction can easily be seen from this table. Were only the reaction with the full amount of serum watched no difference could be seen between

<sup>2</sup> BOAS. Die Wassermansche Reaktion. S. Karger, Berlin, 1911.

the 3rd, 4th and 5th reactions, though the 3rd gives as strong binding of complement with .01 cc. of serum as the 5th gives with ten times as much. Titration of luetic antibody is necessary not only to a critical observation of the efficacy of treatment in its effect on the serum reaction, but also to a fine control of the reaction itself. By holding the positive control down to the least amount of serum that will give a distinct positive with all antigens, slight variations in strength can be detected that would certainly be overlooked if the full dose of serum, perhaps 10 to 20 times the necessary amount, were used. Thus, in using serum No. 3 in the above table as a positive control, .01 or .025 cc. should be used; of No. 4, .05 or 0.1 cc., etc. Titration of antibody gives, also, valuable information of the value of antigens. I accept no antigen that does not give a good positive (40% hæmolysis or less) with .01 cc. of serum from the average untreated early secondary case.

**MULTIPLE ANTIGENS.** In all complement-binding reactions the antigen holds the place of importance. Luetic livers extracted with absolute alcohol have given me about equal satisfaction with similar extracts of guinea-pig hearts. These extracts are evaporated at room temperature, the sediment dissolved in ether, this again evaporated and the sediment redissolved in a small quantity of absolute alcohol. The extracts thus made are accepted only after their reliability has been tested with 30 or 40 sera and their active dose shown to be widely removed from their complement binding or hæmolyzing dose. By using a special pipette for antigens and rinsing it with alcohol I avoid the introduction of water into the antigens and they remain good for many months.

The best antigens, however, will vary somewhat in their behavior with various human and guinea-pig sera. With a weak positive serum one antigen gives 30%, the second antigen of about the same strength 100%. With another weak positive serum the results are the reverse, antigen No. 1 being frankly negative, while No. 2 gives only 20%. For this reason I hold it of great importance to use several reliable antigens for each test, preferably luetic and non-luetic side by side. I use always twice the titer of complement, titrating the fresh complement before each test with  $2^{1\frac{1}{2}}$  times the titer of amboceptor.

**NATIVE ANTI-SHEEP AMBOCEPTOR.** With all our care to remove from the reagents used all variables and to substitute for them measured quantities, one variable remains in the frequent presence in human serum of native anti-sheep amboceptor. Its occurrence is mentioned by Wassermann, Neisser, Bruck and Schucht in one of their



early papers:<sup>3</sup> but passed over as of slight consequence. Later writers, however, have shown that its amount varies to a much greater extent than the originators of the reaction thought, and that the usual dose of serum may sometimes contain 15 to 20 titers of native amboceptor. When such large amounts of native amboceptor occur in a serum containing only a small quantity of luetic antibody, they can easily produce complete hæmolysis by combination with a little unbound complement.

In the titration of luetic sera one must now and then record a reaction reading thus:

.2.	.1	.05	.025	.01	Control
100	50	20	100	100	100

This I thought at first an evidence of a slip in technique; but on repeated observation came to ascribe the anomaly to the presence of enough native amboceptor in .2 cc. to overcome the complement-binding power of the small amount of antibody,<sup>4</sup> which, however, was still enough in .05 cc. to cause a fairly strong positive with the lessened amount of amboceptor.

Of 65 sera tested by me, 35 contained one titer or more of native amboceptor in 0.2 cc. of the serum.

**ABSORPTION OF AMBOCEPTOR.** The inequality of various human sera due to native amboceptor can be very simply remedied by the method proposed by Jacobeauss.<sup>5</sup>

By mixing washed sheep's red cells with the inactivated human serum the native amboceptor is absorbed, and in 20 or 30 minutes can be centrifuged out with the red cells. I use about .2 cc. of a 50% blood suspension to each cc. of serum and let the mixture stand 20 minutes in the ice-chest. Luetic sera so treated give a higher percentage of clear positives, as shown in the following table of results so far reported.

	Luetic sera.	Positives with Wassermann reaction.	Positives after absorption of native amboceptor.	Percentage of increase.
Jacobeauss <sup>5</sup> .....	198	73	90	9%
Mintz <sup>6</sup> .....	33	29	31	7%
Rossi <sup>7</sup> .....	60	50	56	10%
My series .....	41	14	20	14.6%
	332	166	197	9.3%

<sup>3</sup> WASSERMANN, NEISSER, BRUCK und SCHUCHT. *Zeitschr. f. hyg. u. infect. Krankh.*, lv, 1906 (footnote to page 461).

<sup>4</sup> I wish to be understood as using the term antibody simply as the most convenient one in the absence of definite knowledge of the chemistry of the reaction.

<sup>5</sup> JACOBEAUS. *Zeitschr. f. Immunitätsforsch.*, viii, 1911, p. 615.

<sup>6</sup> MINTZ. *Ibid.*, ix, 1911, p. 29.

<sup>7</sup> ROSSI. *Ibid.*, x, 1911, p. 321.

Bailey,<sup>8</sup> in comparative tests of 305 sera, obtained an increased strength of reaction in 3 cases which with the Wassermann reaction gave weak or doubtful positives. Two of these were clinically luetic; the third was a case without other signs or any history of lues. Bailey recommends the method in selected cases. The Koesslers<sup>9</sup> speak very highly of the method, but give no figures.

My cases in which the reaction was markedly strengthened are tabulated as follows:

Clinical diagnosis.	Wassermann reaction, with several antigens.				After amboceptor absorption; several antigens.			
1. Latent secondary .....	100	90	80	10	20	15	10	10
2. Latent secondary .....	20	100	100	...	10	10	20	..
3. Latent secondary .....	100	15	20	100	20	6	6	20
4. Tabes .....	70	100	30	50	50	70	15	20
5. Old perforation, septum nasi.....	60	80	80	90	40	30	50	60
6. Late latent .....	100	100	100	90	90	30	20	6
7. Latent, no history .....	100	100	60	50	70	20	15	15
8. Ulcers of leg.....	100	100	100	30	90	20	20	6

It is easy to see how, with only one or two of the antigens, the change of reaction might have been from negative to fairly strong positive. All the reactions were made in parallel series, with the same complement and antigens, amboceptor and blood suspension, at the same time. Only the first six have been used in the computation of percentage of gain by this procedure, because Nos. 7 and 8 are not clear clinically. No. 7 is a healthy young man with absolutely no luetic history or signs, who has given repeated weak positive reactions except after very small doses of mercury, when his reactions became frankly negative. At one time since I first saw him he has shown faint ringed eruptions on the forearms and I am satisfied that he is luetic. No. 8 is a young woman with ulcers of the leg who gives no luetic history or other signs and so far has not yielded to anti-luetic treatment, yet she has a persistent, weak, positive reaction. The other four cases have all been clinically well established. My percentage of increase in positives by amboceptor absorption is high because my cases were selected, most of them doubtful cases, or well-treated cases, showing a large amount of native amboceptor.

An average gain of 9% in positives is a notable addition to the serum reaction, provided it does not impair the margin of safety within which we work. Bauer<sup>10</sup> claims that it does this by creating

<sup>8</sup> BAILEY. *Archiv. Int. Med.*, 1912, v, p. 551.

<sup>9</sup> KOESSLER, KARL K., and JESSIE M. Specific Antibodies in Scarlet Fever. *Jour. Infect. Dis.*, ix, 1911, p. 374.

<sup>10</sup> BAUER. *Berl. klin. Wchnschr.*, 1908, xiv, p. 834.

anti-hæmolytic properties during the absorption of amboceptor. My work has shown nothing of this more than a slight slowing of the reaction in some cases. Forty-one frank negatives, 22 of which were non-luetic, remained frankly negative. The non-luetic included 4 healthy persons, 4 syphilophobiacs, 2 cases of chancroid, and 1 case each of acne rosacea, lupus erythematosus, carcinoma, ecthyma and morpheimism, gonorrhœa, eczema, seborrhœic dermatitis, pityriasis rosea, lupus vulgaris, exophthalmic goitre, optic atrophy and vocal-chord paralysis, the last two of undiscovered ætiology. The luetic sera in this series of negatives were from 2 late cases with skin lesions, 2 with cerebral lesions, 2 tabetics, 1 active congenital case (skin lesions), and 11 latent cases. Bailey in his series of 305 cases had none in which a negative reaction was clouded after amboceptor absorption. This question of possible danger to the margin of safety is an important one and will require an extensive series of reactions in the non-luetic to furnish an adequate answer.

**THE NEGATIVE WASSERMANN REACTION.** The question of negative reactions in active luetics is one of great interest. The natural desire in this work is to try for a positive in all active luetic cases at least. In a list of 75 active late cases I find 10 which gave frank negatives. Two of these had mucus patches containing plenty of active spirochætæ pallidæ; 2 others had ulcerating nodular syphilides of the face, 1 had periostitis and gummata and the rest had gummata. The serum reaction in several of these cases was confirmed by a control reaction made by a colleague, a very careful and competent serologist.

In view of such findings, which are a general experience, the warning against giving to the negative Wassermann reaction too much weight, as indicating the cure of syphilis, can not be too often or too emphatically repeated. We consider the serum reaction only one of the symptoms of syphilis, the most persistent one, to be sure, but yet only a symptom. What right have we, then, to jump at the conclusion that this symptom can not, like the others, return after years of latency? It is to be hoped, of course, that the future will teach us that a constantly and frankly negative reaction for several years without treatment and without other symptoms, means a definite cure; but in the present state of our knowledge we can do no more than hold to the orthodox view of syphilology: *i.e.*, that such patients, while probably free from syphilis, still must be kept under observation.

**RESUMÉ.** I am convinced:

First: that a standard scale of recording strength of reaction

should be adopted and that the percentage of hæmolysis offers such a scale.

Second: that titration of luetic antibody is necessary to accurate knowledge of the strength of reaction.

Third: that several antigens should be used for each test.

Fourth: that absorption of native amboceptor detects a considerable percentage of positive reactions that would otherwise remain undetected or doubtful and does not cause a positive reaction with non-luetic sera. That it is of value and should be used to parallel the Wassermann reaction in negative or doubtful sera with large amounts of native amboceptor.

Fifth: that we must not allow ourselves to build upon the assumption that a negative Wassermann means a cure.

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## DERMATOLOGICAL THERAPEUTICS.

By

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### SULPHUR.

Among the oldest remedies used in medicine, sulphur is probably the most widely known. It has long been prominent among the so-called household remedies of the laity and is extensively used in veterinary practice. The usefulness of sulphur in dermatology is limited to the treatment of a comparatively small number of pathological conditions, but in this rather restricted field, its action is unique and unsurpassed.

Sulphur is a non-metallic element, designated by the symbol S and with an atomic weight of 32.07 (0.16). It is bivalent and susceptible, according to Potter (Therapeutics, 12th ed., p. 477), of several allotropic states, which are for the most part determined by heat. Sulphur is found in a free state in volcanic regions and in combination with sulphides and sulphates. In the animal and vegetable kingdoms it is found in the tissue cells, particularly of hair and wool and in albuminous bodies. Sulphur fuses at 114° C. and boils at 447.3° C.

In its pure state, sulphur is a permanent, brittle solid of crystalline texture and yellow color. In the United States Pharmacopœia, it is official in three forms: Potter (see above) described these as follows:

1. Sublimed sulphur (sulphur sublimatum). This is made by subliming and condensing crude sulphur, the result being a fine, yellow

powder which has a faintly acid taste, an acid reaction and is insoluble in water or alcohol.

2. Washed sulphur (sulphur lotum) is made by digesting the sublimed sulphur with dilute aqua ammonia, thoroughly washing with water and passing through a sieve. This washes out any arsenic and neutralizes any sulphurous or sulphuric acid.

3. Precipitated sulphur (sulphur præcipitatum) is prepared by boiling sublimed sulphur with slaked lime and water, forming the sulphide and hyposulphite of calcium, which are then decomposed by HCl and sulphur is precipitated as a very fine powder which is next washed until the washings are tasteless and dried with a gentle heat. The result is a very fine, yellowish white, amorphous powder, odorless and tasteless and which is completely volatilized by heat.

The superiority of the last named preparation for both internal and external administration is generally admitted and so thoroughly proved by therapeutic experience that I shall refrain from further reference to the sublimed and washed forms of sulphur.

**SOLUBILITY.** Sulphur is insoluble in water and soluble in other liquids in the following proportions:

Ether, at .....	23 C	0.97%
Benzol .....		0.17%
Tintetrachloride, at .....	99 C	5.8%
Amyl alcohol, at .....	95 C	1.5%
Absolute ethyl alcohol .....	15 C	0.051%
Absolute methyl alcohol .....	18.5 C	0.028%
Acetone .....	25 C	2.084%
Benzene .....	20 C	1.7%
Ethylene dibromide .....	20 C	2.3%
Benzoylchloride .....	134 C	55.8%
Carbon disulphide .....	20 C	29.5%
Chloroform .....	22 C	1.21%
Anilin .....	130 C	85.3%
Butyl alcohol .....	23.5 C	0.97%
Phenol .....	174 C	16.35%
Toluol .....	230 C	1.48%
Formaldehyde .....	10 C	10.0%
Coal tar oil .....	15 C	2.1%
Linseed oil .....	15 C	0.4%
Olive oil .....	15 C	2.3%
Turpentine .....	16 C	1.35%
Glycerin .....	22 C	0.026%

Sulphur readily dissolves in hot aqueous solutions of the hydrates of potassium, sodium, barium and calcium, forming polysulphides and thiosulphates (Ruddiman, *Incompatibilities*, 3rd ed., p. 114).

**INCOMPATIBILITIES.** Ruddiman (*loc. cit.*) states that if sulphur is triturated with strong oxidizing agents such as potassium chlorate or permanganate, explosion is liable to occur. To amplify this information, I may add that similar results may follow the mixing of sulphur with

nitric, picric, chromic and nitro-hydrochloric acids (England, *Amer. Jour. Pharm.*, 1890, lxii, p. 4), nitrates, bromates, iodates, acetozone, benzozone (Sollmann, *Text-book of Pharmacology*, 2nd ed., p. 75), silver oxide, silver nitrate (Remington, *Practice of Pharmacy*, 5th ed., p. 1180), chlorate of sodium (Seoville, *Art of Compounding*, 3rd ed., p. 305) and hydrogen dioxide (Army, *Principles of Pharmacy*, p. 1070). Golodetz (*Die Wirkung des Schwefels auf die Haut*, *Med. Klin.*, 1911, No. 28, p. 1085) shows by his experiments that sulphur should not be used on the skin with metallic salts or metals (mercury, silver, lead), owing to the possible formation of black, insoluble sulphides on the skin by the development of sulphuretted hydrogen. This would also apply to the use of Hebra's diachylon ointment, which contains lead oxide.

**PHYSIOLOGICAL INCOMPATIBILITY.** Carl Bruck of Breslau, in his brilliant experimental work, has proved that sulphur is an antidote for mercury and consequently antagonizes the action of the latter. This action will be fully discussed in another article.

**ACTION OF SULPHUR ON THE HEALTHY SKIN.** Unna (*Aphorismen über Schwefeltherapie*, *Monatsh. f. prakt. Dermat.* i, 1882, p. 289) enumerates the following changes. There was a noticeable dryness and grayish discoloration of the horny layer and a diffuse hyperæmia of the papillæ. Discrete papules and vesicles appeared and coalesced into an acute eczema rubrum. Unna adds that as sulphur produces a pure, superficial catarrh of the skin without injury to the deeper strata, it is the best agent with which to provoke and study, experimentally, eczema in animals.

Kopytowski (*Beitrag zu den pathologischen Veränderungen der gesunden Haut nach Schwefelwirkung*, *Arch. f. Dermat.*, 1912, cxiv, No. 1, p. 111) used as material the normal skin of the scrotum and this was irritated by vaseline ointments containing respectively 10, 25 and 50% of precipitated sulphur alone or with 50% of rice powder. The ointment was applied once or twice in 24 hours and the skin covered with cotton. The dressings were changed daily. Biopsies were made after sulphur applications of 2, 3 and 4 days' duration. In all, 8 cases were examined.

Kopytowski's findings may be resumed as follows:

1. The changes in the skin were uniform and varied only in intensity, which was not always proportionate to the strength and duration of the application. This indicates that individual tolerance to sulphur varies greatly and that some patients react to even weak percentages of sulphur.

2. The stratum corneum was thickened, with incomplete keratinization and elongated nuclei present in the cells. This layer rested directly upon the stratum granulosum, being separated in only one case from the latter by the stratum lucidum.

3. The stratum granulosum showed an irregular thickening, while its cells contained many vacuoles and a diminished amount of keratohyalin.

4. The stratum filamentosum was œdematous, its cells showed vacuoles, and the intercellular spaces were almost eliminated and contained pigment.

5. The stratum germinativum was usually thickened and with few mitoses. The intercellular spaces contained much brown, finely granular pigment and single nuclei of leucocytes.

6. Spindle cells, probably from the swollen and hyperplastic endothelium, were found in the lower epidermal layers in all cases. These cells have unusually large nuclei, which are deeply stained by basic colors.

7. The papillary layer of the dermis was usually œdematous, with dilated vessels, of which the endothelium was swollen and hyperplastic. There was a moderate number of leucocytes, but many pigment cells. There was not much infiltration.

8. The dilatation of the blood and lymph vessels was striking and unusual, giving the skin, in certain cases, a sponge-like appearance. The blood vessels contained some few leucocytes, lymphocytes, erythrocytes and finely granular masses. Many vessels were empty.

9. There were no visible changes in the sebaceous and sweat glands. The hair showed no marked modifications, but the papillæ were occasionally disintegrated, as were also the connective tissue strands in the upper layers. The elastic fibres were straighter than in normal skin and the nerves were invisible.

The principal changes caused by sulphur are, therefore, increased but incomplete keratinization in the epidermis and marked dilatation and thickening of the vessels of the papillæ and upper layers of the dermis. Sulphur possesses little chemotactic action and the leucocytosis which is mono- rather than polynuclear is slight. Hence the serous and purulent exudates, which are seen after the action of other chemicals on the skin, do not follow applications of sulphur. It is not possible to determine by histological methods whether the action of sulphur is due to an oxidation of the drug at the cost of the oxygen of the tissues—a true reductant action—as Unna claims.

CHEMISTRY OF THE ACTION OF SULPHUR ON THE SKIN. Many writers have endeavored to explain the manner in which the action of sulphur upon the skin occurs. Brisson (*Ann. de dermat. et de syph.*, 1909, x, 4th série, p. 656) believes that this drug is oxidized by the sodium chloride of the serum to sulphuric acid and that the latter is its therapeutically active principle. Hence the larger the quantity of secretion by the skin of serum containing sodium chloride, the more active and irritating will be the effect of pure sulphur.

Unna's scholar, L. Golodetz (*Med. Klin.*, 1911, No. 28, p. 1085) believes that Brisson's conclusions are not reasonable, as the formation of sulphuric acid by sulphur on the skin has never been proved. Golodetz calls attention to the very evident formation of sulphuretted hydrogen as shown by the characteristic odor from the skin of patients treated with external sulphur applications. In fact the formation of  $H_2S$  makes incompatibles of such useful external applications as mercury and particularly lead, both of which are turned by the gas formation into black sulphides. This reaction, I might add, extends even to silver articles carried in the pockets. As  $H_2S$  is a highly active parasiticide, the action of sulphur in parasitic infections is comprehensible. Golodetz explains the  $H_2S$  production as due to the action of sulphur, not upon the keratin

itself, but upon the cystein of the latter being changed into cystin. He concludes that Unna's belief that sulphuretted hydrogen is responsible for the therapeutic effects of sulphur is correct.

**THERAPEUTIC ACTION OF SULPHUR.** Administered internally, this drug has been used as a

- Laxative.
- Diaphoretic.
- Alterative.
- Antiphlogistic.
- Antidote for certain metallic poisons.

As an external application, it acts as a

- Keratoplastic.
- Keratolytic.
- Parasiticide.
- Irritant stimulant to the skin.
- Disinfectant.

**INTERNAL ADMINISTRATION.** Cushney (Therapeutics, 2nd ed., p. 559) states that while sulphur is in itself inert, it is changed to sulphides and hydrosulphuric acid in the alimentary canal and the effects induced are due to these bodies and not to the original element. The sulphides act as irritants to the bowel and induce peristalsis and purgation. Sulphides absorbed into the blood are rapidly oxidized and are excreted in the urine in the form of sulphates and of organic sulphur compounds of unknown origin. Small quantities escape by the lungs and give the breath a disagreeable odor of sulphuretted hydrogen. According to some authorities some of the drug is excreted in this form in the perspiration. Potter (Therapeutics, 12th ed., p. 477) claims that the elimination of internally administered sulphur by the skin as  $H_2S$  is sufficient to discolor silver objects carried on the person. This assertion is confirmed by a similar statement in the United States Dispensatory (19th ed., p. 1202). It is thus quite possible that sulphur given by mouth may act upon the skin to some extent during its elimination by this organ. Potter states that the sulphides also leave the body in the fæces which are made soft and black and accompanied, according to H. C. Wood (Therapeutics, 11th ed., p. 643) by much flatus of a peculiarly offensive nature which Wood regards as due to sulphuretted hydrogen. Heftler (The Laxative Action of Sulphur, *Jour. Amer. Med. Assn.*, Nov. 2, 1912, p. 1631) states that the formation of hydrogen sulphide after the ingestion of sulphur remains a demonstrated fact, and that the formation of this gas in the large intestine and probably in the upper bowel as well provokes the discharge of the fæcal mass.

Barrier (De la valeur du Magistère du soufre, *Thèse de Paris*, 1895) asserts that the alkaline juices of the intestine transform a part of the ingested sulphur into sulphide of potassium and sulphide of sodium,



which penetrate as such into the circulation and are eliminated partly as sulphates by the urine and partly as  $H_2S$  by the lungs and by the glands of the skin. "It seems," he states, "that the sulphur internally administered penetrates into the sebaceous glands and appears to a certain extent in the sebum (Morris, *Lancet*, 1855). Hence sulphur may produce, by its antiseptic or stimulant action, a happy modification of the sebaceous secretion or on the gland itself."

According to E. Diesing (Wie wirken Arsen und Schwefel auf die Haut, *Dermat. Centralb.*, 1908-09, xii, p. 258) the metabolic action of sulphur is an important one in dermatology as the sulphur in the blood going to the chromogenetic cells of the rete Malpighii produces the sulphurous melanin and influences the growth of the epidermis and its appendages, the hair and the nails. He states that the suprarenal glands, which contain 3.67% of sulphur in their total solids, perform the function of regulating the sulphur metabolism of the body.

Bulkley (*Arch. Dermat.*, 1880, vi, p. 233) recommends the internal use of sulphur with equal parts of potassium bitartrate for eczema of the anus. He uses sulphur in the form of sulphide of calcium ( $CaS$ ) for pustular and indurated acne, furuncles, carbuncles and syccosis. He states that the drug must be freshly made and smell and taste of sulphur. He orders a quarter of a grain four times daily.

The internal administration of sulphur has been considered at some length because certain research work, which will be referred to later may give to this half-forgotten subject a new and lively interest.

The important fact to remember is that sulphur given by mouth is, according to the testimony of well-known authorities, eliminated by the skin as  $H_2S$ . Whether this gas, which Unna considers the active therapeutic principle of the drug, reaches the skin from within in sufficient quantity to influence favorably cutaneous lesions, can only be determined by clinical observation.

USE OF SULPHUR IN EXTERNAL APPLICATIONS. There is an unfortunate paucity of exact data regarding the several therapeutic reactions of the skin to sulphur, and this makes it impossible to describe these changes in a definite and satisfactory manner. The subject is still further complicated by the very frequent idiosyncrasy to the drug, which in turn renders it difficult to obtain uniform results when the same preparation is prescribed for a certain number of cases of a given skin disease. Thus, after making such deductions as the descriptions of the action of the drug by Unna and Kopytowski would seem to authorize, we must rely upon the clinical experience of our recognized authorities for farther guidance.

KERATOPLASTIC. From Kopytowski's results, which were described above, it will be seen that sulphur produces increased but incomplete keratinization of the epidermis, few mitoses and marked vascular dilatation of the dermis. Leistikow and Darier (*Therapeutique*, p. 128) state that, according to Unna, a small quantity of sulphur causes a kerato-

plastic effect, due either to a reductant action on the albuminoids which are undergoing keratinization or to an arrest of cellular vitality through privation of oxygen, particularly of the young Malpighian cells. If the action be prolonged, the lymphatic channels shrink and hence sulphur is also a dessicant and a (local) antiphlogistic. Paschkis (Lesser, *Encyklopädie der Hautkrankheiten*, p. 475) regards the action of sulphur as slightly keratoplastic and vasoconstricting. This action is increased by giving sulphur with alkalies and soaps. Paschkis states that as a keratoplastic, sulphur should be given in ointments or emulsions with 4 to 10% of the drug. Vaquez (*Thérapeutique*, p. 63) limits himself to the simple statement that in small doses externally applied, sulphur acts as a keratoplastic. While the exact manner in which this effect is produced is certainly not evident, clinical experience has proved that in those conditions which are characterized by a pronounced parakeratosis (pityriasis steatoides, seborrhœic dermatitis, etc.), thus indicating a keratoplastic, sulphur is one of our most efficient remedies.

KERATOLYTIC. Leistikow and Darier (*loc. cit.*) quote Unna as having proved that sulphuretted hydrogen dissolves the keratin, thus explaining the solvent action of large doses of sulphur (from which the  $H_2S$  develops) upon the horny layer. It would thus appear that the determination of a keratoplastic or a keratolytic action depends upon the quantity of  $H_2S$  produced on the skin and consequently the amount of sulphur contained in the remedy applied. Large quantities of sulphur act also as a general, cutaneous irritant and produce a dermatitis which, as is the case with many other forms of dermatitis venenata, is followed by a desquamation of the horny layer. Furthermore, all authorities recommend the addition to sulphur preparations which are intended to act as keratolytics, of alkalies, strongly alkaline soaps and also salicylic acid or resorcin. Under these circumstances, it is but natural to ask how much of the solvent action upon the epidermal horny layer is due to sulphur alone and how much of this effect is produced by the powerful keratolytics which have been added to it? Lassar made use of sulphur as a keratolytic for rosacea. His exfoliating paste (Vaquez, *Thérapeutique*, p. 68) consists of:

R Naphтол B.....	10.0
Sulphur. præcip. ....	50.0
Vaselin.	
Sapon. mgr. ....aa.	25.0

This is applied to the face and removed at the end of 30 minutes with a wet cloth. A dermatitis results after several applications and the horny layer peels off as with a strong resorcin paste.

(To be continued.)

SOCIETY TRANSACTIONS.  
CLINICAL SESSIONS  
OF THE  
THIRTY-SIXTH ANNUAL MEETING  
OF THE  
AMERICAN DERMATOLOGICAL ASSOCIATION.

St. Louis, May 23 to 25, 1912.\*

*(Continued from page 276.)*

**Tuberculide.** Presented by Drs. ENGMAN and MOOK.

J. R., colored, aged five, was brought by his mother for treatment for an eruption involving almost the entire body, stating that it began six months previously. Scattered all over the body were numerous small papules, papulo-pustules, scaly papules, and small, deep-pigmented scars. The eruption was very profuse on the extremities, though quite marked on the body also; it was in various stages of development, from the small erythematous, deep-seated papule, extending through the various stages of scaling pustulation, and finally leaving a small, deep scar with a surrounding dark brown pigmentation. The von Pirquet reaction was markedly positive. Physical examination revealed small areas of dullness over both apices. The patient has been under observation only a few days.

Dr. HOWARD FOX felt sure the case was one of lichen scrofulosorum. It was almost identical with one seen in Dr. Jackson's service at the Vanderbilt clinic and another case that he had photographed. The discrete, tiny flesh colored non-itchy papules scattered about the trunk of a tuberculous subject were in his opinion very characteristic.

Dr. GRINDON said that the older lesions presented a marked similarity to a small lichen planus lesion. He agreed with Dr. Fox that the case was one of lichen scrofulosorum.

**Keratosis Follicularis.** Presented by Drs. ENGMAN and MOOK.

John W., aged fifty-two, was first seen in the City Hospital in 1905. At that time, he stated that the eruption began when he was eight or nine years of age, on the scalp, as thickened, small, yellow, adherent patches and crusts; they did not spread much until adult life, when they began to appear on his face and neck, spreading slowly, until now the entire head, face, neck and trunk were affected (arms and forearms remaining

\* The clinical meetings were held at the Barnard Free Skin and Cancer Hospital and at the Washington University Hospital.

practically free), with a marked involvement of the palms. At the time of presentation, the arms and forearms were involved. The lesions were of several sizes and varieties—from the small keratotic papule up to large plaques forming, by coalescence, encrusted, keratotic lesions up to 4 and 5 inches in diameter. Generally, they consisted of keratotic papules varying in color from red to brown, black and yellow, and in most instances covered with various colored adherent scales or crusts, the follicles being capped by adherent, horny plugs. Upon removal of this plug, there remained a funnel-shaped depression or umbilication, usually in the sebaceous follicles; these follicular openings were unusually well marked on the palms and soles. Upon the head and face were seen thickened, horny plaques produced by the confluence of discrete lesions, greasy and rough to the touch. In the perineum and genito-crural region were seen fungating granulations which were moist, protruding even an inch from the skin, and the follicular openings marked by whitish, macerated edges with gaping openings. There was a considerable discharge from this region which was almost tumor-like, and the odor was quite offensive; the palms were evenly thickened and yellow and everywhere presented depressions or umbilications; the backs of the hands were involved in their entirety and the skin was rough in appearance and felt like fine emery paper. The itching had been quite severe at times, and the abdominal region presented a reddened eczematoid dermatitis exaggerated by secondary infection. Upon the sides of the face, especially the bearded region, on the scalp, the hypogastric region, and on the back, the lesions had become confluent and presented great masses of horny, greasy, yellow scales closely adherent. The patient, during the last seven years, has had many X-ray treatments, and each time the lesions had presented a most remarkable improvement, though he had never been entirely well, because each time he would leave the hospital before the cure was complete. The granulations in the genito-crural region were excised and X-ray treatment given immediately and this treatment had practically cured these processes.

Two years ago he was infected with lues and he was given two doses of salvarsan which immediately cured his macular secondaries, but had no effect on the keratosis. The urinalyses and blood counts at all times had been normal. He was presented to show a remarkable improvement from X-ray treatment. Microscopical examination of a typical keratotic papule revealed the typical microscopical picture of keratosis follicularis. The specimens obtained from the fungating vegetations were particularly rich in the so-called "corps ronds" or psorosperms, though several of the lesions proved not to be follicular.

DR. GRINDON said that this patient had been under his care for many years, and at one time his condition was very much worse than it was now. For a time, there had been a very foul odor connected with the papillary excrescences in the groins and natal cleft. He had been treated with the X-rays, with very little improvement in his hands.

**Case for Diagnosis.** Presented by Drs. ENGMAN and MOOK.

Sister F. J., was a patient who presented herself one month ago, suffering from peculiar erythematous macular lesions on each cheek; they were irregular in shape, the one on the left cheek being about 3 inches in diameter, the one on the right about 1 inch. There was no scaling and the lesion had somewhat the appearance of a wheal. There was a small lesion on the right forefinger. She stated that they began to appear in the Summer, four years ago, on both hands and that they had been present on one or both hands ever since. Occasionally, they appeared on the palms and occasionally on the forearms, but never upon the elbows. One year after the first appearance on the hands, she noticed a few lesions on the cheeks, and she stated that she never has been free of lesions on either the hands or face in the past four years. Her health at all times had been splendid. Blood counts and urinalysis were normal. Examination of the nasal mucosa revealed no abnormality. Her menstruation had been scant and sometimes infrequent and she sometimes suffered considerable pain at this time.

Dr. GRINDON said that while he did not know that the term erythema perstans meant much, he was inclined to designate this case as such. Some time ago he saw a patient with a mammary carcinoma, and surrounding the nipple was a ring of erythema perstans. The case was operated on, but there was a recurrence, and the ring, broken in places, gradually extended up to the clavicle and below to the lower costal margin. It reminded him, in its outline, of a case shown by Dr. Corlett, at the meeting in Cleveland, where there were curved lesions on the thigh.

The connection of such a condition with carcinoma, Dr. Grindon said, seemed to be rather obvious, as the erythema remained directly over the site of the carcinoma, showing that it was probably due to some toxic factor.

Dr. WINFIELD said he thought this was undoubtedly a case of erythema perstans. He had seen two or three cases of erythema perstans where the question of a possible factitious urticaria arose. The patients were usually females, very neurotic, and the possibility of an artificially produced eruption naturally arose.

Dr. ZEISLER suggested that the patient's menstrual history be investigated. He recalled a case observed by Polland of the Gratz Clinic which resembled erythema perstans, but which was presented by him as a case of dermatitis dysmenorrhœica. These cases strongly suggested a factitious element, but did not belong to that type.

Dr. WINFIELD recalled a case which he showed at a meeting of the New York Dermatological Society about six years ago. The patient was a girl of ten, very neurotic, whose symptoms disappeared as soon as menstruation was established.

**Lupus Vulgaris.** Presented by Drs. ENGMAN and MOOK.

Miss M. B. had been under observation and treatment for the past two years. She was twenty-nine years of age. She stated that her trouble began on the left side of her neck as a lump, nineteen years

ago. In about six months a sinus, discharging pus, appeared and the surrounding skin became red and somewhat thickened. Six months later the sinus healed; the glandular swelling disappeared, but the redness of the skin in this area persisted. She presented a typical case of lupus vulgaris, the lesion being situated on the left side of the cheek and extending down the neck; it was 4 inches long and 2 inches wide. There was considerable scarring due to X-ray treatment. There were many typical apple-jelly nodules and tubercles around the entire periphery of the lesion. She was treated for about three months with injections of tuberculin. There was very little improvement from this treatment. The X-ray, she stated, was the only treatment that had ever checked the progress of the disease. Lupus vulgaris was a somewhat rare disease in the Mississippi Valley.

**Demonstration of Plate to Cover Deformity of Hard and Soft Palate Resulting from Syphilis.** Presented by Drs. ENGMAN and MOOK.

Mrs. H. H., aged thirty-four, married, stated that in July, 1903, she was operated upon for a growth in the nasal septum. The wound did not heal and gradually it destroyed the entire septum, the entire hard palate, involving even the infra-orbital plates on both sides, and the temporal bones. She had been under treatment for the past four years, being entirely cured of clinical symptoms with injections of various forms of mercury and several operations for the removal of the necrotic bone. She was shown to demonstrate a most ingenious plate made by Dr. W. H. Plumpe, of this city. There were two screws which were attached by suction with a rubber cap to the soft scar tissue of the former antrum on each side; to this, the entire upper teeth snapped on with a spring clasp—the effect being to entirely remove a deformity caused by the loss of most of the superior maxillary and the hard palate and septum.

**Schamberg's Disease.** Presented by Drs. ENGMAN and MOOK.

L. S. B., aged thirty-six, a physician, stated that his health had always been good. His present trouble began two years ago on the wrist; it began at a time when he was taking care of an obstetrical case, and he stated that the woman had somewhat similar lesions on her leg, but that her eruption had disappeared after delivery. The patches were irregular in shape, macular, and all of a peculiar reddish-brown color. Two or three months after their first appearance on the wrist, they spread up the forearm and were slowly progressing. The primary lesion consisted of groups of small red spots, somewhat like dilated blood vessels, later disappearing, leaving brownish-red pigmentation which showed very little tendency to disappear. At the time of presentation they involved

only the one forearm. The legs were not involved. There were no subjective symptoms. The patient had promised a biopsy and a further report will be published later. The Wassermann was negative.

DR. POLLITZER thought the case was one of lichen planus; he did not regard it as a case of Schamberg's disease.

DR. HARTZELL said he doubted the entity of Schamberg's disease. We saw all sorts of pigmented conditions on the lower extremities. In this case the condition was not merely limited to pigmentation, and it did not at all resemble the case Schamberg described some years ago.

**Angioma Serpiginosum.** Presented by Drs. ENGMAN and MOOK.

The patient was an infant of ten months, with a peculiar superficial nœvus with outlined satellite points. The condition involved the lower part of the side of the face and existed as a peculiar fretwork of vessels, which seemed to be extending peripherally by the appearance of satellite points.

**Case for Diagnosis.** Presented by Drs. ENGMAN and MOOK.

The patient was a woman, aged thirty-two, with atrophy of the muscles of the arm. The disease first began on the wrists, like a prickly heat, and it quickly extended from there up the arms and down on the hands. It next appeared on the chest in about a week or so after the arms were affected; then on the knee caps in about a week; then on the eyelids, when the front of the face became involved. The patient's attention was first attracted to it by burning and itching. It seemed to remain in a stationary condition for about a year, and within the last six or seven months it had spread very rapidly over its present area. The disease occupied the front portion of the face, sides of the neck, the whole of the upper surface of the arm, and the lower third of the forearm; also the front of the chest to about the beginning of the breasts in a V-shaped area, which ran out into a band 2 inches wide and extended over the deltoid region, joining the eruption on the arms. It was slightly marked over the shoulder blades; it extended over the hips and legs clear down to the feet. The eruption was absolutely symmetrical. It seemed to begin as a small red spot the size of a split-pea—more of a macule which had an appearance as if the skin there had been touched by a strong reducing agent. This little spot was irregular in outline and shaded off into the tissues. In the centre it seemed to be slightly scaly; some of them seemed to begin at about the size of a pinhead, or smaller, and gradually increased in size until they joined, making the large diffuse areas. These diffuse areas extended continuously over the surface above mentioned, and in the whole were a kind of purplish-red, peppered with little whitish areas varying in size—some of them irregularly round, some in lines which gave this purplish area a mottled appearance—white,

red and purple. On the hands and on the lower part of the arms were white lines which stood out sharply against the purple; in other words, on the back of the hands, between the bones of the hands, were these white lines. The palms of the hands were involved and the lesions there appeared papular. Between the fingers and on the sides of the fingers there was no involvement. The nails were perfect. On the legs there evidently had been itching, scratching and some scaling, which was clearly seen in all of this area. The white dots and lines in the purple areas were probably due to atrophy of a very superficial kind. The front of the face looked rather seborrhœic, but on close inspection this seemed to be secondary, as the skin presented the same peculiar purplish color, dotted with white points as in the other portions. The lids were very purple with large vessels coursing everywhere on them. The patient could not extend the arms fully, which seemed to be due to some muscular atrophy. The deltoids had almost disappeared, and almost all the other muscles of the arms were attenuated. The legs, however, were not atrophic, and were of a fairly good size; but the patient complained of not being able to handle herself in a muscular way. She could not work so well or lift herself about. The roof of the mouth, the patient complained, was sore, and the same lesions that were on the skin seemed to be on the roof of the mouth; those on the cheeks seemed to be exactly of the same appearance as those seen on the body—whitish dots in the purplish-red areas. The patient also stated that the skin felt sore to manipulation, and the mouth was sensitive. She was quite thin, did not sleep well and had very little appetite.

DR. GRINDON said that when he saw this patient two years ago she had lesions on the outer aspect of the left thigh and a few on the forearm. The appearance of the individual lesions was that of lichen ruber pilaris. The case did not look like that when presented.

DR. KNOWLES said the case was similar to one reported by Hyde in the *British Journal of Dermatology* under the title of Graves' disease associated with telangiectases.

#### **Multiple Carcinomatosis.** Presented by DRs. ENGMAN and MOOK.

W. E. B., aged thirty-two, single, a farmer, entered the Barnard Free Skin and Cancer Hospital in January, 1912. He stated that his father died of intestinal trouble, and that his mother had died during labor. There was no history of cancer or tuberculosis in the family; his early history was unimportant until the age of twenty-two, when he suffered from a severe attack of pneumonia. When he recovered, he noticed what he described as a small, pearly nodule on the right side of the chin, which gradually increased in size until it was about a quarter of an inch in diameter. Two years after the appearance of the nodule ulceration was noticed. One year after the appearance of this nodule, a similar nodule had appeared on the tip of the nose. The lesion grew



very gradually, new ones appearing from time to time on the sides of the neck. Up to three years ago he had only six lesions, the largest being on the chin, ulcerated, and about the size of a half-dollar. At this time, he had one on the nose, one on each side of the chin, one on the left cheek, and one on each side of the neck, posteriorly. He consulted a physician, who advised him to enter the hospital for X-ray treatment; he remained seven weeks and was given thirty-one exposures. Seeing no improvement, he left the hospital. Several weeks after discontinuing this treatment, the lesions became somewhat painful and began to grow larger, and a year later began to appear in great numbers all over the face and neck. He had very typical rodent ulcers, pearls, nodules, crusted ulcerations with pearly borders; small cystic-like, non-ulcerated epitheliomata scattered irregularly over the face and neck, varying in size from a small, sharply circumscribed, rodent ulcer nodule, up to large, fungating, carcinomalike lesions, the size of a dollar. On the centre of the forehead was a frambœsiform, fungating tumor the size of a silver quarter; this lesion was a typical carcinoma, clinically. On the back of the neck was a large keloidlike tumor, smooth, with no tendency to ulceration, and was apparently cystic, somewhat different from the other nodules. Clinically, the case presented typical, small, sharply defined rodent ulcer nodules, ulcerating epitheliomata, fungating carcinomata, a few cystic-like epitheliomata and many cicatrices—the sites of former lesions. The rapid retrogression had occurred in the last three years. The patient otherwise was in good health. The submaxillary, sub-mental and cervical glands were not palpable.

DR. POLLITZER said that this man was a farmer and had been much exposed to the sun. He presented a rather unusual amount of pigmentation of the skin, notably on the arms. The case was possibly an example of the injurious effects of the actinic rays on a susceptible patient, and from this point of view suggested a connection with xeroderma pigmentosum.

DR. HARTZELL thought the case was one of xeroderma pigmentosum.

### Case for Diagnosis.

Presented by Drs. ENGMAN and MOOK.

The case presented was of interest from a diagnostic standpoint. There was an acute erythema extending over the arms and hands, face and neck, some of the lesions looking like lichen planus, and the whole chain of symptoms was similar to a toxic erythema. The case was sent in from Bonne Terre, Mo., by a physician who had made a tentative diagnosis of pellagra, as the patient came to him with a history of diarrhœa, sore mouth, etc. Dr. Ormsby and some others who were expert pellagrologists had not called the condition pellagra; and those who were familiar with the clinical symptoms of that disease could readily discern, from some of the papular lesions, that it was not of pellagrous origin. What the true diagnosis of the condition was, the speaker was unable to say,

as the case had just entered the hospital and there had not been sufficient time for study.

DR. HARTZELL said that while his experience with pellagra was rather limited, he was very much inclined to doubt the diagnosis in this case. If the case was one of pellagra, it differed from any other case of that disease that he had ever seen. He was more inclined to look upon it as an eczema or an occupational dermatitis. Some years ago, the speaker said, he saw a number of cases of pellagra in Italy, and he had learned then that nothing was more misleading than to make the diagnosis from the cutaneous symptoms alone.

DR. HOWARD FOX thought that the sharply defined borders of the patches on the wrists and neck were very suspicious of pellagra. In a trade dermatitis, such a sharply defined margin would not be present.

DR. ORMSBY said that when he first saw this patient, in the absence of any history of constitutional symptoms, he felt some doubt as to the diagnosis, but on further examination, and with the further history of the gastro-intestinal symptoms, as well as the mental attitude of the patient, he was inclined to believe that the case was one of pellagra. The sharply defined lesions on the wrist and neck were very suspicious. In a number of the cases which they saw in Illinois, the patients showed a temporary erythema, with moist lesions, and then this thickened dermatitis.

DR. ORMSBY said he recalled a fatal case of pellagra at the Cook County Hospital which was almost identical with this case. One factor to be kept in mind in connection with this case was that the patient was an alcoholic, to which fact his mental symptoms might be due. The case was of only three weeks' duration, and the possibility of a pseudo-pellagra in alcoholics should always be borne in mind.

DR. PUSEY said he thought the case was one of pellagra.

DR. ENGMAN said that in addition to the skin manifestations in this case there were certain constitutional symptoms which he thought made the diagnosis of pellagra certain. Before making the diagnosis of pellagra, each case required individual study, but in order to arrive at the diagnosis, one should not expect to have the entire chain of symptoms present.

DR. RAVOGLI said it was sometimes difficult to make the diagnosis from the skin lesions only: these were at times erythematous, or they might be eczematous, but the fact should be borne in mind that these skin manifestations were always in regions of the body that were exposed to the sun, which apparently had a great deal of influence on their production.

DR. WINFIELD said that while he had seen comparatively few cases of pellagra, he recalled one case, a Dutch farm-woman on Long Island, who had worked in the field with the men, and whose symptoms had progressed for two or three years before the case was recognized as one of pellagra. Before that it had been regarded as an eczema. Finally, she developed mental symptoms and was taken to one of the State hospitals where the diagnosis was made. She lived only one month after being taken to the hospital. The case was very similar to the one shown by Drs. Engman and Mook.

DR. GRINDON, in confirmation of the fact that pellagra could not be confined within rigid boundaries, quoted Lombroso's statement that "there was no disease—only the diseased."

**Generalized Pigmentation.** Presented by Drs. ENGMAN and MOOK.

The patient was white, a male, aged sixty-three, a native of Pennsylvania; social condition, widower, in the city for twenty years. He had been entered in the City Hospital twice previously, the first time on Feb. 8, 1909; again on Dec. 9, 1911; the present time, March 30, 1912. Each time he entered with a diagnosis of pediculosis capitis and corporis, also nephritis and pigmentation of the skin. Previous history: He had the usual diseases of childhood. He denied venereal diseases or other serious illness. The present trouble began in 1908, when he noticed his skin becoming slightly discolored, especially where the clothing came in contact with the skin. He was then engaged as janitor to a candy company, shoveling ashes, and thought that the chemicals and ashes caused the pigmentation. He complained of some itching, and the skin at that time was slightly irritated and roughened. When discharged he was cured of pediculosis and the nephritis had improved; the pigmentation was not improved, after four months in hospital. He again entered the hospital Nov. 1, 1911, with a diagnosis of pediculosis capitis and corporis, and nephritis. Examination then showed the patient to be well nourished; the skin was markedly pigmented, very dark brown over the entire body except the feet, ankles, hands, wrists, neck, face and scalp; the eyelids were puffy; the feet and ankles were œdematous; there was marked pallor of the mucous membranes and the portion of body not pigmented; the glands of the neck, axilla and groin were enlarged and tender; the heart at this time showed a soft, blowing murmur over the apex, transmitted in all directions. The patient was apparently at this time slightly mentally deficient. He was discharged after thirty-eight days as cured of pediculosis and nephritis and the cardiac condition had improved; there was no change in the pigmented condition of skin. He again entered the hospital March 30, 1912, with a diagnosis of pediculosis, nephritis and asthma, probably due to the renal condition. The pigmentation of the skin at this time had apparently deepened. He showed very much the same physical findings as when entering in 1911, with the exception of deepening of the pigmentation of the skin and the renal findings more marked.

Urinary findings, 1909: Twenty-four-hour specimen, 1300 cc. Specific gravity, 1012; color, light yellow; acid; clear; albumen present in small amount; no sugar; leukocytes present; casts, both hyaline and granular.

Urinary findings, 1911: Twenty-four-hour specimen, 1150 cc. Specific gravity, 1012; albumen present in small amount; uric acid crystals; casts, both hyaline and granular, present; no sugar; few epithelial cells.

Urinary findings, 1912: Twenty-four-hour specimen, 1100 cc. Specific gravity, 1018. Albumen present in large quantity; no sugar; casts, hyaline and granular; few blood cells.

Blood findings, 1911: Blood pressure ranging between 110 and 130; white cell count, 11,000; red cell count, 3,440,000. Hb. estimate, 40%. The blood examination in 1912 presented about the same picture.

DR. GEORGE H. FOX said that it seemed to him that this was one of those cases of which he had seen a few instances many years ago, where diffuse pigmentation was associated with long-continued, persistent pediculosis. He did not wish to assert that the pediculosis was the sole cause of the pigmentation, but the two conditions were frequently associated. He was inclined to believe that the true cause was something internal which we did not know, but that the persistent irritation of the skin might be a factor in causing the eruption.

In connection with this case, Dr. Fox said, he wished to call attention to a photograph in Dr. Piffard's Atlas, where the eruption was similar to that in this case. It was the only photograph of the kind in existence, so far as he knew.

DR. RUGGLES said that very good evidence of the fact that this condition was due to scratching was that the areas on the back, which were most inaccessible, were much the lightest in color.

DR. PUSEY said these cases were still seen in Chicago, and he recalled two or three cases of pigmentation of the skin associated with pediculosis as severe as this one. This chronic pigmentation occurred only in dark-skinned people, in persons who already had a good deal of pigment in the skin.

DR. SCHALEK said he had seen a few cases of diffuse pigmentation associated with pediculosis, but they differed from this case in that the pigmentation occurred in spots. He agreed that the condition was the result of long-continued irritation of the skin.

DR. GEORGE H. FOX thought it was singular that when there were so many cases of pediculosis without pigmentation, that in a few instances the pigmentation should be so intense.

DR. RAVOGLI said he had seen these cases of pigmentation coming on in the course of pediculosis, but the pigmentation was not so uniform or pronounced as in this case. He had observed similar phenomena in long-standing malarial fever with splenic involvement: melanoderma. There must be a hæmolytic condition from altered functions of the spleen which gave that discoloration which represents a kind of icterus. It may be that the case may have some relation to Banti's disease.

DR. MOOK said that the first time he had seen this case, he thought that the man had negro blood in him, but the patient denied that, claiming that he was an Englishman. The features, too, bore some resemblance to a negro.

### **Recurrent Erythema.**

Presented by Drs. ENGMAN and MOOK.

Mrs. M. W., married, aged fifty-four, presented herself to the Barnard Free Skin and Cancer Hospital for treatment for a punched-out ulcer on the left leg, the size of a silver dollar. She stated that it had been present for twenty years, though during that time it had been healed for short periods at various times. She was advised to enter the hospital for a rest in bed and treatment. The patient stated that she had always been well except for the appearance of an erythematous rash, which appeared several times a year during the last eight years, usually accompanied by a mild temperature and followed by a profuse desquamation. Her circulation was poor and the skin of both legs was tense and showed some atrophy. She was kept in bed, the leg elevated, and soothing lotions and

salves were applied daily. Her Wassermann test was negative. Two months after her entrance into the hospital an erythematous rash appeared, covering the entire body—not associated with temperature, though there was a feeling of malaise. She was given a course of calomel and soda and purgatives, and within five or six days the erythema had disappeared, and was followed by a profuse desquamation over the entire body, the process requiring about a week. She had been in the hospital about four months and had had several of these attacks, each one being coincident with any skin graft, or interference with the leg ulcer.

DR. HARTZELL said he thought the diagnosis was correct. As to the cause of these eruptions, they varied greatly. Possibly it was due to the absorption of some toxic substance.

**Scar Keloid.** By DR. ALEXANDER S. WOLF.

The case was one in a colored woman, an inmate of the City Insane Asylum, upon whom a total hysterectomy had been performed many years ago. The case was shown on account of the large scar keloid at the site of the operation.

**Tylosis Verrucosa Due to Arsenic (?).** Presented by DR. WOLF.

This was a case of tylosis verrucosa plantarum pedum et volarum manuum, most likely due to prolonged use of a drug (arsenic(?)). The patient had the condition for years, previous to her admittance to the Insane Asylum, about seven years ago. She had taken drops for a number of months, to prevent epileptic attacks.

DR. PUSEY said he had photographed many years ago a man with keratosis of the palms due to arsenic. In the last few years he had seen this man with an epithelioma at the site of the keratosis, and finally, general carcinomatosis.

**Dermatitis Exfoliativa.** Presented by DR. WOLF.

When first seen by the speaker, early in February, 1912, the patient presented a skin of decidedly red hue, with numerous scales fastened in the centre or in another point, the margins of which were rolled up. The scales were of a thumb nail's size, thin, paper-like, the skin underneath not oozing when they were removed. The whole skin surface appeared as though divided by lines running between the scales, in numberless fields of different shapes. The skin of the face was more reddened than normally would be expected in a patient who had been confined to the institution for years. The skin of the face, particularly around the eyes, showed a decided tension and was glistening. The affection involved the whole trunk and the extensor and more so the flexor surfaces of the upper and lower extremities. The palms and soles were thickened, the skin

of the backs of the hands and feet roughened, on the back of the feet of decided ichthyotic character, the scales being of dark, dirty-grayish color and of considerable thickness. There was an outspoken decrease in pliability of the skin of the lower third of the legs, a condition reminding one of a sclerodermia. In Dr. Wolf's opinion the condition of the hands and feet was suggestive of ichthyosis, the condition of the skin all over the body could be possibly placed in the third group of Brocq's scheme of dermatitis exfoliativa generalisé.

DR. HOWARD FOX thought the case was one of ichthyosis. The reddened inflammatory areas did not lessen the probability of this diagnosis, as this condition was quite frequently noted in ichthyosis.

#### **Adenoma Sebaceum.**      Presented by DR. WOLF.

This interesting case was to be the subject of a later publication. The patient's mother had suffered, since her early childhood, with the same affection, together with other cutaneous lesions, to be described elsewhere. A brother of the patient developed lesions of adenoma sebaceum at the age of two years, having died at the age of four. The patient here presented was an imbecile inmate of the insane asylum.

DR. HOWARD FOX thought the lesions on the face were typical of adenoma sebaceum. The association of the patch upon the abdomen was rare and simulated the case shown at the International Dermatological Congress in New York. It would be of great interest to know whether a microscopical section would show the picture of adenoma sebaceum in the lesion upon the trunk.

#### **Senile Atrophy of the Skin.**      Presented by DR. WOLF.

The case showed a high degree of senile atrophy, with a branny and papyraceous exfoliation of the skin, together with a striking line of senile warts, surrounding the waist line, a locality subject to long-continued chronic irritation.

In addition to this unusually large number of exceedingly interesting cases, the members of the Association were invited to visit the Missouri Botanical Gardens, where they were shown cancerous growths and parasitic affections in plants by Prof. George T. Moore. Dr. Leo Loeb, Dr. Carroll Smith and Dr. Llewellyn Sale, in the Laboratory of the Barnard Free Skin and Cancer Hospital, gave various demonstrations on the growth of skin cancer in animals and the experimental influence of certain external and internal conditions on the growth of the malignant cell.

## NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Nov. 26, 1912.

JEROME KINGSBURY, M.D., *Chairman*.**Case for Diagnosis.** Presented by DR. HOWARD FOX.

The patient, E. L., was a man thirty-eight years of age, born in the United States. The family history was negative. The patient had suffered from scarlet fever as a child. Nine years ago he had had an attack of pneumonia, followed by empyema. There was no history of night-sweats, bloody expectorations, glandular swellings, etc. About five years ago, a lesion of unknown character had appeared upon the left side of the nose. This had been treated by X-ray, and was finally excised, leaving a linear scar an inch in length.

The eruption had first been noticed fifteen months ago, appearing as a papule just beneath the left nostril. It had then gradually spread upon the upper lip, and attained its maximum size about two months ago. It had never occasioned any subjective symptoms. The diagnosis of lupus erythematosus had been made by a physician in Portland, who had treated with X-ray and CO<sub>2</sub> snow without any apparent benefit. The eruption appeared as an infiltrated patch about half an inch wide by an inch and a half long upon the left side of the upper lip. It presented a horse-shoe shape, was a dirty yellowish-gray in color, with a narrow reddish border. The central portion was elevated, firm, and somewhat warty in consistence. The lesion was dry, and showed no ulceration or marked scaling. A tentative diagnosis had been made a month previously by a colleague, who had given the patient iodide of potash. This was said to have caused an improvement at the end of a week. Twelve days previously he had received an intravenous injection of salvarsan (grams 0.6) which had not been followed by any apparent improvement. He had also previously been given one intramuscular injection of salicylate of mercury without benefit. A Wassermann reaction had been negative on three occasions. A histological examination showed no evidence of syphilis, tuberculosis or blastomycosis. The von Pirquet test performed subsequent to the patient's presentation showed a faint positive reaction. The result of the luetin test was inconclusive.

DR. FORDYCE said that the case was one of much interest, especially from the standpoint of diagnosis. He said that clinically the suspicion of blastomycosis was entirely justified, and if that could be eliminated he believed the condition would prove to be tuberculosis.

DR. JACKSON said that he regarded the case as one of tuberculosis of the skin on account of its great chronicity, its location near the orifice of the nose, which was also involved and its slight tendency to break down. It was a tuberculosis

verrucosa cutis in type, showing as it did the warty circumscribed growth, about which was a seam of dull red.

DR. WINFIELD thought it probably tuberculosis rather than blastomycosis.

DR. TRIMBLE said that from the location and general appearance it seemed to him to be a case of tuberculosis verrucosa. If the man were a dispensary patient, the lesions would probably be more warty, but being a clean individual and a private patient, he probably controlled the verrucous element by constant treatment.

DR. KLOTZ asked if any tuberculin treatment had been tried, to which Dr. Howard Fox replied that he did not know.

DR. WHITEHOUSE said that the diagnosis of tuberculosis verrucosa cutis conformed to the clinical picture.

DR. HOWARD FOX said that the salvarsan treatment, given ten days before without any change in the condition, had probably ruled out the diagnosis of syphilis. He was inclined to accept the diagnosis of tuberculosis verrucosa.

**Case for Diagnosis.** Presented for DR. FORDYCE by DR. TRIMBLE.

The patient was a man, forty-four years of age. The dermatological condition was confined to the legs, and had existed for three and a half years. The lesions, several on each leg, were thickened dusky, red-brownish patches, with a warty surface. There was a distinct violaceous hue throughout the diseased area, and there were scattered outlying, glistening, flat papules to be seen. A provisional diagnosis of lichen planus hypertrophicus was made at the clinic.

DRS. DADE and WINFIELD thought that it was the Kaposi type of sarcoma.

DR. HOWARD FOX said that he had only recently had a chance to study a case of sarcoma, and the lesions seemed to be more nodular than in this instance. The lesions here did not seem to be sufficiently elevated and tumor-like. He did not care to make a positive diagnosis, but was inclined to think it hypertrophic lichen planus.

DR. KLOTZ said that the case certainly presented many features of lichen planus hypertrophicus, but that it was difficult to say how much it had been changed by treatment. He recommended treatment with chrysarobin and 10 per cent. salicylate plaster.

DR. WHITEHOUSE said that as he recalled the history, pain and soreness were the chief symptoms. At first he had understood that there was itching, but that was not the case, which would probably be one of the symptoms if it were lichen planus hypertrophicus, irrespective of the small outlying foci. The suggestion of sarcomatosis seemed worthy of consideration.

DR. FORDYCE declined to advance a positive diagnosis until he had an opportunity to investigate the histological features of the trouble. When he first saw the case, he was inclined to believe that most of the lesions were due to hæmorrhages in the skin secondary to varicose veins, but subsequent investigation showed that many of the lesions presented the features of a new growth, and he thought that the diagnosis of hæmorrhagic sarcoma should be given careful consideration.



DR. KLOTZ said that so far as pain was concerned, any lesion in this locality on a man who is much on his feet would probably be accompanied with pain.

**Cheilitis Exfoliativa.** Presented by DR. TRIMBLE.

The patient was a young woman, twenty-three years of age. She had suffered from the lesions as presented for two years. The condition was one of persistent exfoliation of the lips. The lips exhibited a crusted appearance, and were also slightly fissured. The glandular exudation soon dried, forming crusts, which were later thrown off, followed by a short period of rest, and the process would again begin.

DR. HOWARD FOX said that he had had this patient under his care for over a year before, and tried a good many methods of treatment. He had improved the condition somewhat, but had been unable to cure it permanently.

DR. WHITEHOUSE said that it seemed to him to be a seborrhœic eczema of the lip, which was not uncommon. He told of a case at the Skin and Cancer Hospital with crusting, secondary infection, etc., which defied diagnosis for a long time, but was finally cured up promptly under suitable antiseborrhœic treatment.

DR. FORDYCE said that he had seen several cases of exfoliation of the lips which persisted in spite of treatment. The condition might be a seborrhœic dermatitis, but he was always rather sceptical of this diagnosis.

DR. TRIMBLE said that some of the text books classed this lesion under the head of seborrhœic dermatitis, but that he had not been entirely willing to accept this classification as satisfactory. For instance, this patient had no other lesion of seborrhœic dermatitis. Her complexion was unusually good, there were no lesions on the scalp, etc. She had been under observation for several weeks and a simple ointment had cleared up the lesions, but as soon as the treatment was stopped the condition reappeared.

**Angioma.** Presented by DR. TRIMBLE.

The patient had a peculiar angioma of the buccal mucous membrane just inside the mouth. The case was presented to obtain an expression of opinion as to whether it would be a good thing to use CO<sub>2</sub> snow on the mucous membrane, or whether it would be best to resort to surgical measures to cure the condition.

DR. KLOTZ said that he had observed a similar angioma on the border line of the hard and soft palate. When the patient opened the mouth it stood out very prominently. He had also seen a similar angioma in the male urethra, the lesion being of the size of a coffee bean. He had made no attempt to cure it. The patient, he understood, was later operated upon for a stricture, with a very severe hæmorrhage resulting.

DR. FORDYCE said that these cases could be cured by puncture with galvanocautery, which caused obliteration of the vessels with very little scarring.

**Linear Nævi, Involving the Tongue.** Presented by DR. KINGSBURY.

The patient was a healthy appearing, well-developed boy, four years of age. Several wide bands were distributed over left shoulder and left

side of chest, back and neck. There was also a lesion about one and a half inches long and half an inch wide on the left side of the tongue.

Dr. KLOTZ said that the lesion on the tongue in connection with those on the skin made the case an especially interesting one. He did not know how frequent were such affections of the tongue, or whether they had been described at all.

Dr. MACKEE, in response to Dr. Kingsbury's request for suggestions as to therapy, advised the application of the solid carbon dioxide, or other cauterant. The use of the X-ray would be largely experimental and the result uncertain. Good results obtained by radiotherapy would be through atrophy and endarteritis, which would not occur until several months after the treatment.

Dr. WINFIELD approved the suggestion of the solid carbon dioxide treatment, but advised against the application of the X-ray.

Dr. JACKSON also thought it a good case for CO<sub>2</sub> snow treatment.

Dr. DADE told of a similar case with a lesion on the left side of the tongue and left side of the jaw. The patient was an eight-year-old child, and he had found acetic acid treatment very satisfactory. It worked well on both the skin and tongue, and gave a beautiful result. He used the acid in true strength, not neutralized at all. It was tried experimentally on one patch, and was so successful that the mother brought the child back for further treatment.

Dr. FORDYCE said that Dr. Dade's suggestion was a very good one, as the lesion was chiefly in the epidermis. This structure was amenable to treatment by acetic acid.

### Lupus Erythematosus or Lupus Vulgaris?

Presented by Dr.

SCHWARTZ.

Dr. Schwartz said that at first glance the case seemed to be one of extensive lupus erythematosus of the face, ears and scalp. On the other hand there were some lesions which suggested lupus vulgaris, especially the destruction of part of the ears and tip of the nose. The patient had been seen only once, and no definite diagnosis had been possible. The patient was thirty-eight years of age, and the condition had existed for about fifteen years.

Dr. WINFIELD thought it a classical case of lupus erythematosus.

Dr. TRIMBLE said that he had never seen a case of lupus erythematosus which had the pinched appearance of the nose as observed in this case, the symptom so characteristic of lupus vulgaris. From this symptom, and the brownish hue in the lesions, he was inclined to consider it a lupus vulgaris. It was difficult to diagnose the lesions on the scalp.

Dr. HOWARD FOX expressed an opposite view of the case, and thought that it was lupus erythematosus. The beaklike condition of the nose was indeed a symptom of lupus vulgaris, but the scalp showed the classical eruption of lupus erythematosus. He thought that the entire condition was due to that disease and that a combination of the two affections was hardly conceivable. Only a very few cases had been reported in which the two conditions coëxisted.

DR. WHITEHOUSE was inclined to think that it showed more features of lupus erythematosus than of lupus vulgaris. It certainly was a very interesting case and would repay study in several directions. A biopsy might tell something.

DR. FORDYCE said in the light of this case it was not surprising that the older clinicians confused lupus erythematosus and lupus vulgaris. The case presented was in his opinion one of lupus erythematosus. He did not see how any other diagnosis could explain the scalp lesions, although the condition of the nose and ears suggested very strongly lupus vulgaris. On glass pressure no nodules were revealed.

DR. DADE thought that the conditions suggested lupus erythematosus rather than anything else. It did not to him seem at all characteristic of true lupus.

DR. SCHWARTZ also thought that it was a case of lupus erythematosus. The conditions all pointed that way, with the exception of the condition of the nose, which in his experience was unknown in lupus erythematosus. He had not examined the case very thoroughly as yet, but had not been able to make out any lupus nodules. It seemed to him possible that it might be an example of the rare form described by Leloir as lupus vulgaris erythematoïdes—a form closely resembling lupus erythematosus clinically, but shown to be tuberculous by the histological and bacteriological findings and animal inoculation. Such examinations were necessary in order to make a positive diagnosis in the present case.

### **Atrophia Diffusa Unilateralis.** Presented by DR. HOWARD FOX.

The patient, Patrick G., was a man forty years of age, born in Ireland. He gave no history of syphilis. He admitted having suffered about nine years ago from a genital sore, which lasted only a few days. He had also had an attack of gonorrhœa four years ago.

The eruption was first noticed about ten years ago, having appeared first upon the back of the left hand. It had gradually increased in area up to the present time. The eruption consisted of a marked atrophy of the skin, involving the entire dorsal surface of the left hand and fingers, and the entire circumference of the wrist. The eruption was also present upon the left elbow, and to a lesser extent along the ulnar border. None of the patches was sharply circumscribed. The skin was thin and papery, dry and smooth, devoid of hairs, and of a bluish red color. On half of the dorsal surface of the left hand the skin appeared white, suggesting a scleroderma although this condition was not present. There was apparently a very slight atrophic condition of the skin of the knuckles of the right hand. The patient was in apparent good health, and suffered no inconvenience from the eruption.

A Wassermann reaction performed subsequently was positive.

DR. KLOTZ had seen at least one case where the atrophy was confined to only one extremity, and, if he remembered right, had presented the patient before the Society years ago. Some trauma of the arm had preceded the appearance of the symptoms.

DR. WHITEHOUSE said that syphilis might be considered as the cause. The condition was unilateral, and it might possibly be a syphilitic blood vessel disease resulting in atrophy, similar to the case presented by Dr. Fordyce last year.

Dr. FORDYCE said the case was one belonging to the group described under the name of symmetrical cutaneous atrophy. In Dr. Fox's case, however, the lesion was limited to one extremity. In view of the development which had taken place in a case which he had demonstrated before the Society some years ago, he suggested to Dr. Fox that he make a Wassermann test, as it was not improbable that the lesion in question was related to a vascular disease of syphilitic origin.

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## NEW YORK ACADEMY OF MEDICINE,

### SECTION ON DERMATOLOGY.

January 2, 1912.

JEROME KINGSBURY, M.D., *Chairman*.

#### **Molluscum Contagiosum.** Presented by Dr. POLLITZER.

The patient was a girl, four years old, on whose abdomen the mother had noticed a papule two months ago which she supposed was a mole. Two weeks ago there developed very rapidly an eruption of small molluscum papules numbering about fifty, in the immediate neighborhood of the original lesion, that is, on the left side of the abdomen. The greater number of these lesions was aggregated closely around the primary lesion, their number decreasing with the distance from this point and only a few scattered lesions were to be seen on the right side of the trunk. The picture presented was very suggestive of a contagious process, the recent extensive crops being secondary to the single lesion observed two months ago.

Dr. LAPOWSKI said that he had never before seen a case where the secondary lesions were so grouped around the one which had first appeared. He called attention also to the fact that some of the very early lesions were surrounded by a red zone, while others were not.

Dr. WILE said that it was extremely difficult to prove the contagiousness experimentally. He had tried fresh material and material macerated in salt solution, on broken and also on unbroken skin, without result. The red zone referred to by Dr. Lapowski was inflammatory, the molluscum corpuscle acting as a foreign body, the hyperæmic zone showing itself histologically as a mild grade of inflammation.

Dr. AITKEN said that he had never observed the red areola in early lesions; in later stages it was due to infection.

Dr. POLLITZER said that the contagiousness was proved by clinical experience and by a few successful experiments. The molluscum body, however, was not a protozoön, but was the product of a special degeneration of the epithelium. The red areola was generally due to secondary infection, but when it occurred in very early lesions, which it sometimes did, it was probably due to the irritation of the mass of molluscum cells, acting simply as a foreign body.

**Lichen Spinulosus.** Presented by DR. WILE.

Dr. Wile presented a case which he had shown at a previous meeting, upon which a probable diagnosis of lichen spinulosus (Crocker) was thought most likely by most of the members present. At that meeting attention was called by several to the evident atrophy in the centre of one of the patches. Dr. Wile said that this had not developed during his observation of the case, and therefore he could not say whether or not it might not have been the result of previous treatment. During the past two months, however, atrophy had set in in the centre of all the larger patches, and therefore this must be regarded as an essential feature of the disease. This being the case, a diagnosis of lichen spinulosus must be abandoned, and the case was therefore resubmitted to the members for diagnosis. The speaker further wished to call attention to the very evident involution which was going on, the patches being decidedly less prominent, less red, and according to the patient, less itchy. Arsenic internally and a ten per cent. salicylic acid paste, had been used during the past two months.

DR. LAPOWSKI said that he had this patient under observation several months, and that he had seen some lesions develop, and others go on to atrophy. They began as groups of comedo-like, raised points, which gradually increased in size. From each papule a sebaceous plug, with a black head, could be expressed, leaving a patulous opening. If several of the plugs were removed at once, a cribriform surface was left. If tincture of iodine were applied a few times, and the surface covered, the comedones ceased to form, and the skin atrophied. At first he thought it to be keratosis follicularis cornée of Brocq, but now he believed it to be a tuberculide.

DR. WILE said that the microscopic findings, while they did not establish a diagnosis, at least served to rule out some of the clinical hypotheses which had been suggested, such as lichen planus of an unusual type, and Darier's disease. The findings corresponded exactly with the clinical features of the disease: namely, follicular parakeratosis, follicular plugs made up of cellular detritus, atrophy of cells lining the follicle, and a rather marked perifollicular infiltration with round cells.

**Lichen Planus.** Presented by DR. KINGSBURY.

The patient was a healthy appearing man of German birth, fifty-nine years of age. The eruption was quite characteristic and very extensive, and at the time he was before the Section, it was of but eight days' duration.

**Tubercular Syphilide or Scrofuloderma?** Presented by DR. DITTRICH.

The patient was thirty-one years of age, an Italian and single. Has been fifteen years in this country. One sister died from tuberculosis. The other members of his family were healthy. The patient had gonorrhœa twice: the first attack was three years, the second attack was six weeks ago. When a young man of seventeen he had a lesion on his penis which

remained for about six months, when it disappeared without any treatment. He denied any treatment up to his twenty-fourth year. About seven years ago he noticed a few little papules, painful and red, on his elbow, and one or two on the hairy region on the back of his neck. They disappeared without leaving scars. About two and a half years ago a crop of papules appeared over the right eye and then over the left eye. These did not disappear, some turning into pustules, healing up, leaving no scars, and some remaining up to date. They were grouped, infiltrated, inflammatory tubercular lesions, of a red color, and the scars between them were pitted, round and somewhat varioliform. There was also some superficial scar tissue. Two years ago a number of papules appeared on the left lower side of the face, parallel with the jawbone, and another group arranged itself in a circular manner around the lower part of the right ear at the same time. The patient had a bald, inflammatory cicatricial spot of the size of a half dollar, behind and above the right ear. A year ago he was operated upon for appendicitis and had metastatic abscesses and an ulcer on one foot. When he came under observation, a Wassermann was made by Dr. Kaplan, which was negative. Since that time the speaker had made injections of salicylate of mercury every five days. New lesions appeared, however. On the corneæ of both eyes there were opacities from former ulcerative processes.

DR. POLLITZER said that this was a case of lupus erythematosus, and called attention to the spot above the right ear, as especially characteristic.

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## PHILADELPHIA DERMATOLOGICAL SOCIETY.

The regular monthly meeting was held on Monday, April 8, 1912, at the college of Physicians. DR. JAY F. SCHAMBERG, *President*.

### **Congenital Ichthyosis.** Presented by DR. SCHAMBERG.

A boy of two years exhibited a typical and marked roughness and fish-scale condition of the entire skin surface. The face was markedly involved; a decided eczematous element was noted. There was also a verrucous appearance in the neighborhood of the joints, with a considerable amount of fissuring. The outbreak resembled somewhat a dermatitis exfoliativa. The baby weighed seven and one-quarter pounds at birth and the roughness, "Harlequin condition," of the skin was noted at the time of birth.

### **Case for Diagnosis.** Presented by DR. SCHAMBERG.

A man of thirty-nine presented an outbreak of one year's duration, in the axillæ, the pubic region and around the nipples. The disease was intensely pruritic and because of the rubbing the hairs had nearly

disappeared from the axillæ and the pubic region. The lesions consisted of papules, lichenoid in type and some were frankly follicular. A considerable number of the follicles in the involved areas were raised, giving a goose-flesh appearance. Several furuncles and abscesses were also present, probably from secondary pus infection.

DR. STELWAGON considered the condition to resemble markedly a sycosiform eczema.

**Case for Diagnosis.** Presented by DR. KATZENSTEIN.

A man of forty-two years showed an interesting condition of six months' duration. The patient injured his right hand in opening a box; at the site of the small scratch caused by this procedure the present lesion developed. There was a silver-dollar-sized lesion on the dorsum of the right hand, sharply margined, raised, dark-reddish in color, with numerous miliary openings on the surface, suggesting a blastomycosis. There was also a large axillary abscess. Cultures were negative.

DR. STELWAGON and DR. HARTZELL each suggested the possibility of staphylococcic infection.

**Hairy Pigmented Nævus.** Presented by DR. KNOWLES.

A baby of two years of age was exhibited with a nævus involving the entire lower half of the back, extending down to the upper portion of the thighs. Notwithstanding the early age of the child the growth of black hair had already started on the pigmented area. Carbonic acid snow was to be applied.

**Alopecia Areata in a Child of Four Years.** Presented by DR. KNOWLES.

The case was presented to show the early age at which this condition may develop. Fully one-half of the scalp was denuded of hair.

FRANK CROZER KNOWLES, M.D., *Reporter.*

## CHICAGO DERMATOLOGICAL SOCIETY.

A list of selected cases presented at the Chicago Dermatological Society during the year 1912.

O. H. FOERSTER, M.D., *President.*

**Lichen Ruber Verrucosus Resembling Nævus Linearis.** Presented by DR. ORMSBY.

The patient was a man, forty-eight years of age. The duration of the disorder was twenty-four years; the location of the lesions was on the

left leg and thigh and right wrist (Fig. 1). The lesions were papules, flat-topped and acuminate, varying in size; discrete and grouped; dark red in color, and arranged in lines along the long axis of the limb. In places, some secondary changes exhibited by atrophy, had occurred. On the wrist a small group of similar lesions was present. Itching was marked. In spite of constant treatment for four years, including a large amount of radiotherapy, little change has been made in the lesions.

**HISTOPATHOLOGY.**—The most marked changes were at once seen in an hypertrophy of the epidermis and a cellular infiltration in the corium, with marked evidences of pathological change about the coil glands. The stratum corneum showed a marked increase in thickness. The stratum lucidum could not be demonstrated. The stratum granulosum also shared in an hypertrophic process. The stratum malpighii was most strikingly affected, acanthosis being extreme in the centre of the nodule, and many of the rete pegs extending deeply into the lower corium. The corium presented cellular deposits in groups, columns, and in scattered masses. The coil-gland region was the seat of both inflammatory and degenerative changes. Involvement of the coil glands primarily in the process appeared certain. As no hair follicles occurred in the section, their part could not be demonstrated.

The above changes, taken as a whole, corresponded closely to those found in lichen ruber verrucosus, and to a degree to those found in some cases of nævus linearis. In some respects, the picture here presented was similar to that exhibited in a case of nævus linearis reported by Elliot,<sup>1</sup> but here the marked cystic dilatation of the ducts was absent, and consequently the intracanalicular adenomata were necessarily absent.

#### **Nævus Linearis.**      Presented by DR. WAUGH for DR. ORMSBY.

This patient was shown in order to compare an example of nævus linearis with Dr. Ormsby's case of lichen ruber verrucosus. The patient was a boy, thirteen years of age. The disease had been present since birth. The location of the lesions was on the right thigh and leg, extending from the groin to halfway between the knee and ankle (Fig. 2). The lesions were flat-topped, round or irregular, pea-sized and smaller, bluish-red, lichen-planus-like papules. They were arranged in lines and streaks, some grouped and many discrete. As far as could be ascertained, the lesions began shortly after birth. Marked itching was present.

That a close resemblance occurred between these two affections was evident from numerous reported cases. One illustration occurred when Robinson<sup>2</sup> presented a child ten years of age before the New York Dermatological Society. This patient had lesions, beginning at the age of three and one-half years, occurring as a patch seven inches long, starting above the popliteal space and extending through and below it. The members of the Society were about equally divided on the diagnosis between lichen planus and nævus linearis. As to the two presented by Dr. Ormsby

<sup>1</sup> *Jour. Cutan. Dis.*, May, 1893.

<sup>2</sup> *Jour. Cutan. Dis.*, 1893, p. 286.





Fig. 1.  
Lichen Ruber Verrucosus.



Fig. 2.  
Nævus Linearis.



Fig. 3.  
Granuloma Annulare.



and Dr. Waugh, clinically, the true lichenoid nævus had lesions identical with lichen planus. The lichen ruber verrucosus case was clinically a typical nævus linearis.

**Granuloma Annulare(?)**. Presented by DR. ORMSBY.

This patient, presented for diagnosis, was a man aged thirty-eight years, having had the cutaneous lesions for three months when first seen (Fig. 3). He stated that his attention was first called to the presence of the trouble when he leaned against a pole to scratch his back. A hard lump was then felt by him. No sensations were present, and he neglected attending to it at once. On examination, February 9, the following condition was noted:

Over the right scapula there was a hard tumor mass, composed of four large nodules. These were elevated about one-third of an inch above the cutaneous surface, were solid, well-defined, bluish to brownish-red in color, semi-translucent, movable with the skin, and deeply seated. A few dilated vessels were present over the surface. The resemblance to keloid was marked. Toward the middle of the back several similar deep-seated nodules, coffee-bean sized, bluish-red in color or colorless, were noted. On the following day the photograph above indicated was taken. One of the outlying nodules was excised for histological examination, and a three-minute treatment with X-rays was given. Six days later a second treatment was administered, and ten days later a third. At this time the large masses were softening and disappearing and many of the smaller nodules had entirely cleared up. A fourth treatment was given thirteen days after the first. This included all treatment administered in this case. Four weeks after this date the lesions had cleared up, the smaller ones leaving no relics, the larger ones a brownish and darker pigmentation.

The case was presented for diagnosis, and among other things discussed were keloid, sarcoma, and granuloma annulare, the last being suggested by Dr. Pusey.

**HISTOLOGICAL EXAMINATION.**—At the edge of the nodule were dense masses of cellular infiltration, limited to the coil-gland region. Remains of glands were seen dispersed in the cellular infiltrate. The corium was normal, with here and there a column of cells. The epidermis was normal. In the centre of the nodule were large masses of cells, beginning in the deepest part of the section, which included the hypoderm. The infiltration became less marked as the corium was invaded. Here the entire corium was more or less infiltrated with groups, masses, and columns of cells, the papillary layer being least involved. The infiltration consisted chiefly of small, round cells. A few oval and a moderate number of elongated cells of connective-tissue type were present.

The chief reasons for placing this case in the category of granuloma annulare were the following: Sudden appearance; equally sudden disappearance; painlessness; nodular character of the lesions (larger in this case than usual); the deep situation; and the translucent appearance or bluish-red color of the lesions.

The amount of radiotherapy given hardly seemed sufficient to relieve such a growth, and as lesions of this type have disappeared after the removal of a small bit for examination, it may be that the biopsy performed here had something to do with their disappearance.

**Lupus Erythematosus.** Presented by DR. ZEISLER.

The lesion was of ten years' duration, located on the nose of a young woman. Various forms of treatment, including carbon dioxide snow, had been used without beneficial effect, and during the last fourteen months the patient had been receiving a weekly injection of tuberculin. Although her general condition was greatly improved, no local benefit had resulted.

DR. PESEY stated his belief that lupus erythematosus was not always a tuberculide, but that, similar to erythema multiforme, it might be the local expression of a toxamia due to various causes. He cited the total disappearance of a lupus erythematosus of several years' duration after the removal of a uterine myoma.

DR. ZEISLER also showed the photograph and reported the history of a case of keratoma-like lesions of the extremities with itching, of 10 years' duration. He identified it with the rare condition termed "multiple, nodular lesions of the skin with itching," and spoke of its possible relationship to urticaria perstans.

**Folliclis.** Presented by DR. ORMSBY.

This was a case of a patient aged thirty-two, a woman, who had suffered with the disorder more or less for four years. The two first attacks occurred during the winter, at which time there occurred only bluish-red discolorations or very moderate nodules. During the last two years the present lesions had appeared.

The lesion began as a deep-seated, bluish-red nodule, which gradually broke down and suppurated around a central hard point. The nodules were limited to the fingers about the joints. No subjective sensations were present except tenderness. The patient was the subject of tubercular adenitis of the neck. During the last summer a large amount of tuberculin had been given, and this winter's attack was the most severe.

Crocker described cases of this type under the title "acro-dermatitis hiemalis pustulosa," but later under folliclis; he stated that these cases should be classed under the latter heading, being a winter type of that disorder.

**Case for Diagnosis.** Presented by DR. HARRIS.

A young woman, twenty-five years old, had had for two years a recurrent eruption on the palmar surface of the right hand, at the base of the index finger.

The eruption commenced with a circumscribed red area, about the size of a quarter, somewhat swollen and tender. Superficial pressure produced very little pain. Deep pressure, especially over a small area the size of a match head, in the centre of the lesion, was very painful. After

two or three days, several small pustules developed, followed by evidence of an ascending lymphangitis, with tenderness and enlargement of the axillary glands. The patient stated that as soon as the pustules were opened, the tenderness and inflammatory symptoms subsided. The pustules seemed to be located just beneath the stratum corneum. Since the onset, two years ago, the patient had had five or six attacks, which subsided promptly as soon as the pustules were opened. The attacks were not accompanied by neuralgic pain, or any disturbance of the general health. There seemed to be no seasonable predisposition. There was no history of traumatism of any kind. A skiagraph showed nothing abnormal. There were no scars to be seen.

As to diagnosis, it was considered as a possible case of recurrent supuration in consequence of a foreign body, similar to the recurrent supuration around the sphacelus in cases of osteomyelitis. It was suggested as a possible recurrent herpes. The absence of any distinct vesicle formation, as well as the distinct lymphangitis, would probably speak against such a diagnosis. Pompholyx and eczema were suggested.

**Generalized Inveterate Psoriasis.** Presented by DR. ORMSBY.

This case had been presented several times previously, and was recorded in *THE JOURNAL* for February, 1912, page 109.

At the time of presentation, the psoriasis occupied practically the entire body, and the skin was greatly thickened. During the years that the patient had been under observation, the therapeutic management had had no effect on the disorder. Internal and local treatment, including vaccine, were alike unavailing. Recently, a series of injections with cacodylate of sodium had been given, with practically the same results as with all other treatment. The extensive involvement, the marked thickening, and the rebelliousness to treatment were the points of interest in the case.

**Favus Treated with X-rays.** Presented by DR. ORMSBY.

The patient was a boy, twelve years of age, who had suffered with the disease for four years. It occurred in three separate patches, each about the diameter of a silver dollar. The areas were typical, showing broken stumps of hair, patches of atrophy, and the usual alopecia.

The technique of radiotherapy employed was as follows: A coil having a spark-gap equivalent to twelve inches, excited by a current of one and one-half milliamperes, was used. A mercury turbine rotary interrupter was employed, and a tube having a spark-gap equivalent to three and one-half inches. The distance of the tube from the area was four inches. The areas were blocked out with lead, care being taken not to allow overlapping.

The time of each treatment was five minutes. Treatments were repeated every other day until five treatments had been employed. On the fourteenth day the hairs were loosening and could be readily removed.

On the nineteenth day alopecia was complete over the entire area, with no erythema. In ten weeks the hairs began to regrow, and in three months were well grown. Very much more hair was present than appeared possible before treatment.

This was the third patient presented before this Society treated in the same manner, all with equally good results.

### **Pruritus Ani, Recurring after Plastic Operation for its Cure.**

Presented by Drs. PUSEY and STILLIANS.

The patient, aged forty-eight years, Jewish, was a small, spare-built man, highly nervous, who had suffered with severe pruritus ani for six years. Four years ago, for relief, a plastic operation had been performed, consisting of an excision of a wide section of the skin about the anus, on the theory that the itching could be removed with the skin. The pruritus promptly returned, worse than before, and since then had resisted all efforts to relieve it. Around the anus could be seen an area approximately three inches in diameter, resembling scar tissue, and covered with thick, white inelastic skin. This skin was sodden, excoriated from scratching, and very sensitive. The anal folds were deep and rigid, with many fissures. The scar tissue extended well into the anal orifice, which was distinctly strictured. Connected with this area was an extension about two inches long in the intergluteal fold; here the skin was white, and shiny but not so thick, nor so inelastic. This area was separated from the normal skin by an irregular red border, one-eighth to one-fourth inch wide.

On the anterior surface of the left leg, about its middle, was an area, three by five inches in dimensions, of atrophic lichen planus.

The case was presented as one showing the futility of extensive operation for the relief of pruritus ani. Such operations were undertaken all too frequently by the surgeons, and were based on a lack of knowledge of the pathology of the condition, hence the failure to effect relief.

### **Case for Diagnosis.** Presented by Dr. LESPINASSE.

The patient was a young girl, ten years of age. In the family history no similar condition was recorded; the mother was apparently healthy; the father was syphilitic. On the tip of the chin beneath the skin and not adherent to the bone was a soft, illusive tumor, the size of a hazelnut; a similar growth was present at the centre of the lower lip. The left half of the tongue was larger than the right, and showed numerous papillomata, varying in size. There was a very high ridge in the palate, and the teeth were of the Hutchinson type. The lower incisors were separating, possibly due to pressure from the growth.

Dr. PUSEY considered the tumor a nœvus of lymphatic structure.

DR. ZEISLER made the diagnosis of *hygroma linguæ*, a very rare congenital cystic degeneration of the tongue, a case of which he had reported in the "Centralblatt für Chirurgia," 1885.

**Scleroderma of Severe Type.** Presented by DR. STILLIANS.

The patient, thirty years old, was a clerk in a railway office. Both of his mother's parents and one maternal aunt had chronic rheumatism. He denied venereal infection; he suffered from concussion of the brain when a child, due to a fall, and often had sore throat. In March, 1911, he experienced an attack of muscular rheumatism, affecting first the neck muscles, and then those of the abdomen, thighs, arms and shoulders in succession, the attack lasting about two weeks. After an interval of three weeks of freedom from pain the first attack was duplicated in kind and duration. Following this he resumed work. In November, 1911, there was some recurrence of pain in the neck, and for the first time he noticed that the skin of his neck, arms, chest and face was stiff and hard. When presented to the Society the whole body above the waist line, except the hands and lips, showed a deep infiltration of the skin, rendering it impossible to be stretched or pinched up into folds; the color was normal; the skin surface was normally soft to the feel; there was slight pitting on pressure. About the lower line of infiltration, on the abdomen, there was slight congestion evident, the color returning slowly following pressure. The face had a drawn look; the mouth could be opened to admit two fingers; there was some stiffness of the fingers, and pain when the hands were rubbed together. The blood showed 8% of eosinophiles. The Wassermann reaction was negative. Nothing abnormal was found in the chest and abdomen, and the patient's general condition was good.

Sections showed great increase of fibrous tissue throughout the cutis with absence of subcutaneous fat. The number of blood vessels was greatly reduced; their walls showed slight thickening and a moderate round-celled infiltration accompanied them. A similar condition of round-celled infiltration surrounded the sweat and sebaceous glands. The epidermis was normal.

**Folliclis.** Presented by DR. McEWEN.

The patient, a young woman nineteen years old, lost her mother two years ago from consumption. She herself was obviously tuberculous. She was first seen in the fall of 1910, at which time she was suffering from a tubercular adenitis, and presented peculiar lesions on the hand; these began as small papules, which gradually became pustular, with subsequent formation of a crust, which, on removal, left a pitted scar. The lesions were bluish in appearance. No other part was involved at that time. She improved under local applications and systemic treatment, with tuberculin injections, and all lesions disappeared in a number of months. There was a slight recurrence a year ago, and in August of this year numerous lesions which were still present, appeared on the hands, and

which were clinically the same as those of two years ago. One lesion had recently appeared on the face and had left a typical scar.

In the discussion of this case the possible relationship between the recrudescence of the skin lesions and the use of tuberculin was considered.

**Tertiary Syphilis.** Presented by DR. FOERSTER and DR. BAER.

The patient, a male aged thirty-seven, had been affected for thirteen years with a malignant type of syphilis, which proved refractory to all mercurial and iodide treatment. Rupial lesions of the scalp and face appeared early, and there was marked cachexia. On Nov. 10, 1910, the patient received an intramuscular injection of 0.6 gram salvarsan in alkaline solution. At this time he showed actively ulcerating lesions on the scalp, face and neck, and a well-developed syphilitic elephantiasis of the upper lip. The Wassermann reaction was strongly positive. The lesions healed completely in three weeks, and the elephantiasis of the lip disappeared entirely after eight weeks. The Wassermann reaction was strongly positive during thirty days after the injection, then was negative for five weeks, and since then continuously and strongly positive. Since the one injection of salvarsan the patient had had no further treatment of any sort, and had remained symptomatically well, with a gain in weight of fifteen pounds. When presented he showed only the perfectly healed cicatrices of former lesions covering the entire scalp, and parts of the neck and face.

*(To be continued.)*

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MANHATTAN DERMATOLOGICAL SOCIETY.

Regular meeting, Dec. 6, 1912.

M. B. PAROUNAGIAN, M.D., *President.*

**Dermatitis Herpetiformis(?).** Presented by DR. MOUNT.

The patient had his affection for the last thirteen months. When seen he presented an eruption of the erythema urticaria group, probably analogous to dermatitis herpetiformis. During that time he had presented with more or less regularity an erythema varying in color from a pink to a rose, and distributed over the chest, abdomen, back and arms. The individual lesions varied in size and shape, and there was some tendency at times to grouping. Subjectively the patient complained of intense itching on warm days with marked amelioration during cool weather. The urine and blood were negative. Dr. Mount placed the eruption in



the erythema urticaria group, and further observation led him to believe that he was dealing with a condition, if not of dermatitis herpetiformis, at least analogous to it for the following reasons: 1. Location. 2. Chronicity with periods of betterment. 3. Itching at times most intense. 4. Refractiveness to any form of medication up to the time of presentation. 5. The attempt at times of grouping of the lesions.

DR. GEORGE HENRY FOX said the case was extremely interesting, and that it belonged to the erythematous type of dermatitis herpetiformis. He stated that it reminded him of a case which came under his observation many years ago, of which he had some photographs taken at the time, and which was very similar to the one Dr. Mount presented. He said that his case, however, showed much larger rings upon the body, with no vesicles or bullæ which were ordinarily seen in dermatitis herpetiformis. Dr. Duhring also saw this case and pronounced it dermatitis herpetiformis. Since then Dr. Fox said he had seen quite a number of cases of this type in which the eruption occurred in disks and rings.

DR. WEISS said that the raised borders which he believed he saw containing minute individual vesicular lesions would tend to corroborate the fact that they were herpetic.

DR. GOTTHEIL was not inclined to accept the diagnosis of dermatitis herpetiformis, since there was neither a dermatitis nor a herpes. The designation might be unfortunate; dermatitis was hardly better; but he would hesitate before accepting a diagnosis of erythematous or urticarial dermatitis herpetiformis. Erythema multiforme of chronic relapsing form did occur, and he was inclined to place this case in that category.

DR. GEORGE HENRY FOX said that he had never seen an erythema multiforme exist for that length of time and remain in the same condition. He agreed with Dr. Gottheil that the name dermatitis herpetiformis was an unfortunate one. He stated that the disease was characterized by chronicity, pruritus and a marked tendency to relapse, and that the attacks usually occurred when the patient was tired in body or mind. Basing a diagnosis on these symptoms which were present in Dr. Mount's patient rather than upon the lesions themselves, he would call it dermatitis herpetiformis.

DR. MOUNT said that he had merely referred to the name dermatitis herpetiformis because he did not know of any other name to put it under, and therefore called it either the erythematous variety of the disease or something analogous to it. He remarked that the daily occupation of the patient at times necessitated a great deal of mental strain. At these times the eruption was out in full force with intense itching, but when the patient succeeded in keeping his thoughts away from his work and became quieted the eruption almost entirely disappeared. The speaker stated that the remedy which had most improved the condition of his patient was the administration of liquid lacto bacilline, of which he had taken about 30 tubes, at the rate of two tubes a day, and that under this treatment the eruption had at one time almost entirely disappeared.

### **Blastomycosis(?). Presented by DR. WEISS.**

The patient, a woman aged twenty-three, was healthy up to the age of eight and one-half years, when she had measles, and later scarlet fever with kidney trouble and convulsions. She was ill for two months. The next year passed without any trouble. After this she had epileptic seizures. Then the patient started to take bromides for years, after

which the lesions of the legs started. These would occur only in the winter time. Bromides were taken away from her because her physician said it affected her leg. She had a few spells of fainting after giving up the bromides. The eruption began on the right leg, involving the parts from the calf down to the ankle, as a small pustule, showing crusting and exhibiting a papillary surface with sero-purulent exudation. By spreading in the course of years the oldest parts would heal, showing an atrophic, livid appearance.

When exhibited the affected leg showed a general dermatitis with superficial ulcerations. The borders above and below were serpiginous and covered with crusts, which when removed exhibited an oozing surface. There was no history of syphilis, and no clinical signs of it. Two cultures taken for blasto and actinomyces proved negative. The fact that the lesions appeared in the winter, that bromides had been discontinued some years, the absence of deeper ulcerations and scars, the festooned borders and the appearance of the affected surface when healed, showing only a discolored, smooth, atrophic surface, made the diagnosis of some parasitic disease seem tenable.

DR. HOWARD FOX said that he had seen the patient about two years ago and had made the diagnosis at that time of bromide eruption, an opinion which he still held. He doubted the reliability of the patient's statement in regard to bromides.

### **Elephantiasis Vegetans.**      Presented by DR. GOTTHEIL.

This patient, aged eighteen, came from the City Hospital. The disease process began in 1907, during the winter of which year Dr. Gottheil saw the patient in consultation. She was suffering from an erysipeloid inflammation of the skin of the dorsum of her right foot and leg in which could be already felt a number of deep, hard, painless nodules. She then had already had such inflammatory attacks, each one of which left the leg a little larger than before, and with a few more nodules. These latter remained permanently. During the succeeding three years she had been on and off in the City Hospital. The elephantiasis had extended up to the thighs and had increased enormously, and the patient was partially disabled on account of the weight and size of the limb, and probably also from muscle atrophy from pressure and disuse. She had a bad erysipeloid attack a few weeks before presentation to the society, with the usual resultant increase in the nodules and general thickening of the skin. During her stay in the hospital the year previous careful search of the blood was made at various hours of the night, without any filaria being found. Bacteriological examination of material from the surface of the skin and the secretion in the papillary furrows showed nothing but the ordinary skin bacteria. Several biopsies were made, and many sections carefully studied; chronic inflammatory

tissue, with some thickening of the vessel walls, were the only pathological changes found. At the time she was presented the entire right leg up to the pelvis was enormously enlarged. The lower leg and the *dorsum pedis* were studded with papillary excrescences, some of very large size. Unless the greatest care and cleanliness were exercised, erosion and ulceration, with the exudation of a foul purulent secretion, took place in the furrows and sinuosities of the papillary masses; Dr. Gottheil believed that the erysipeloid attacks originated in this way. He also called attention to the patient's general obesity and overdevelopment; this was more marked when she was younger; but her appearance and habitus were those of a much older woman. She was also mentally below normal, though nothing specifically wrong with her mind had been discovered. Treatment had been useless; amputation had been proposed, but it would have had to be done very high up, as the elephantiasis process was apparently extending onto the abdomen; no artificial limb could be used, and the patient having partial use of her leg was better off than so stout a person would be with crutches; Dr. Gottheil therefore rejected it.

DR. OULMANN said that when this case was presented two years ago he recommended pressure on the *arteria femoralis* as treatment, as mentioned by Wright and others, with good results.

DR. HOWARD FOX referred to a case of elephantiasis that he had treated a few years ago. The condition was considerably improved by the removal by Dr. Semken of several wedge-shaped masses from the leg. This not only lessened the size of the leg but removed portions of the skin that were fungating and that caused a foul-smelling discharge. Dr. Fox referred to a case treated in a more extensive manner by Dr. Rogers, of Milwaukee.

DR. GOTTHEIL said that, since successive exacerbations and increase in the volume of diseased tissue always occurred after the inflammatory attacks from renewed local infections, and since it would be impossible for an operation to be clean here, surgical interference would be one of the last things he would advocate.

### **Lichen Verrucosus of Both Legs.**      Presented by DR. WEISS.

The patient was a woman forty-two years of age, and had never had anything resembling the present affection.

The trouble began about one and one-half years before presentation as a small papule, which gradually grew in size, accompanied by itching whenever the patient perspired. She had been treated with many salves. The eruption began on the right leg first, and the left leg had been involved since the last five months. On the outer side of the right leg, just above the ankle, there was a dry, scaly patch with a violaceous border, and above, on the calf of the left leg, there were small masses of aggregated polyangular patches of dry and scaly appearance. These patches were all thickened and had a verrucous appearance and itched considerably.

**Acute Lupus Erythematosus.** Presented by DR. KINCH.

This woman was married and forty-two years of age. The nose and cheeks and eyebrows were covered with a red, scaly rash, not painful nor itchy and not deeply infiltrated. No apple jelly nodules were visible, but there were small atrophic areas. The condition had lasted two or three months.

DR. GOTTHEIL said that the mere extent of a lupus erythematosus was no contraindication to the CO<sub>2</sub> in these cases; he had treated cases in which over two-thirds of the facial area was involved, and with satisfactory results.

DR. KINCH said that the point that he regarded most was the rapid development of the case, for within a period of less than three months it had progressed very extensively.

**Chancre of the Shoulder.** Presented by DR. OULMANN.

The patient was a female adult, thirty-four years of age, married, and had never had children. She never had any serious illness before. She stated that about nine weeks before presentation to the society the lesion started. Some time before that she had been scratched on the right shoulder by her stepson. He had been a soldier in the Philippines and had received a salvarsan treatment while there. The patient's lesion instead of healing became larger, was raised and of a light red color. When Dr. Oulmann saw her for the first time the lesion was the size of a plum, at which time she also had a roseola. Her husband had presented himself to the society the month previous with a gumma. The patient had been four weeks under treatment, and at the time she was presented the lesion was about half its former size. The localization was a rare one.

**Double Annular Syphiloderm in a Colored Woman.** Presented by DR. GOTTHEIL.

This girl, aged eighteen, from the City Hospital, showed a very picturesque late secondary luetic eruption, which began in the middle of July of this summer, and had been gradually increasing ever since. The lesions, of which there were some twenty-five in all, mostly on the upper back and neck, showed vividly against her dark blackish-brown skin. They were oval rings, some of them  $2\frac{1}{2}$  by  $1\frac{1}{2}$  inches in size, and each composed of three distinct elements. In the center was a smaller rounded or oval, deeply pigmented and slightly atrophic area, darker than her normal skin; around this there was a broad zone, whitish-brown in color, slightly verrucous and raised; on the outside of each patch was a closely set ring of pinkish-brown, moderately hard papules. She had moist papules on the genitals and a few circinate lesions similar to those of the body on the legs and arms.

Entering the hospital early in November, she was put on indifferent treatment, finally being given a few bichloride injections. The papular external rings disappeared, and the hypertrophic middle zone flattened out; so that practically only the stains and atrophic areas were left.

DR. OCHS, in reference to the apparent atrophy surrounding the lesions, said, at first there was a hyperpigmentation around the lesion, then later there was an absorption of that pigment, and in about three to four months this hyperpigmentation became absorbed and the skin became normal in appearance.

### Hyperidrosis. Presented by DR. MACKEE.

This patient had been exhibited at the Dermatological Section of the New York Academy of Medicine. There had been a marked hyperidrosis of both palms; the left palm had received twelve Holz knecht units of the X-ray six months ago, as a result of which the sweating had ceased. The untreated palm was always wet.

DR. GOTTHEIL asked for an explanation of the action of radiotherapy in these cases. If it were permanent, and due to atrophy of the coil glands, microscopic investigation would be of interest, and would settle the question. He was rather inclined to doubt this being the case.

DR. MACKEE said that he thought the good effect of the X-ray upon hyperidrosis was due to its ability to produce atrophy of the sudoriferous glands. It had been demonstrated pathologically that the X-ray caused the most marked atrophy in the glandular elements of the skin. The endothelium, non-secreting epithelium, connective tissue cells and elastic tissue were all affected, but not as quickly as the glandular apparatus. It was possible, therefore, to overcome excessive sweating or excessive oiliness without producing a visible atrophy. Even less atrophy of the epidermis would follow the use of a ray that was filtered through one or two layers of chamois. The chamois would filter out the very low penetrating rays—the rays that affected the epidermis most—and if a Benoist 8 ray were employed, the maximum effect would be obtained in the true skin.

The speaker said that twelve Holz knecht units could not be applied to one area at one sitting on account of the severe reaction that would follow. The dose should be divided into two or three treatments. By this method it was possible to overcome the disagreeable odor and excessive sweating of the axillæ.

The speaker said that Dr. G. H. Fox had noticed a slight erythema of the untreated hand, while the treated hand was somewhat pale. He had also suggested that this modification in circulation was responsible for the cure of the hyperidrosis. In reply to this, Dr. MacKee said that the X-ray did lessen the amount of blood in the skin through its action on the blood vessels and other tissues, as had been demonstrated in cases of vascular nævi, and that this undoubtedly did have some effect on the excessive sweating. He added, however, that the patient's "untreated" hand had received an X-ray dose of four Holz knecht units ten days previous to her presentation to the Society and that the erythema that Dr. Fox had noticed was the result of that application.

Dr. MacKee also desired to call attention to the fact that there was no more atrophy of the treated than of the untreated hand. Both palms were somewhat atrophic as a result, probably, of the disease with which the patient was afflicted, namely, epidermolysis bullosa hereditaria.

DR. GEYSER said that in these cases he did not think there was complete atrophy, but that the X-ray stopped the activity of the sweat glands, and that in some cases he had seen the X-ray work extremely well and in many instances had seen a lasting benefit in cases of hyperidrosis.

### **Gumma of the Tongue.**      Presented by DR. WISE.

The patient was a man of sixty and had been infected with syphilis about twenty-two years ago. He stated that he had been troubled with leukoplakia since the last fifteen years. About three years ago a hard, nodular mass began to form on the dorsum of the tongue, gradually increasing until it had attained the size of a hazel nut. The tumor was painless, and there was no palpable glandular involvement. About nine months ago he received an injection of salvarsan, which caused the disappearance of several patches of serpiginous syphilides on the back, but seemed to have very little influence on the tongue condition.

DR. GOTTHEIL said that a gumma that had persisted for nine months without softening and breaking down or increasing in size very much, especially when exposed to maceration, heat and moisture, constant motion and possible traumatism, as one on the tongue, was certainly unusual. On the other hand, deep carcinoma showed just such characteristics; the tumor might persist for a long time, growing very slowly, and give very little trouble until the accidental or purposed opening on the surface causes the advent of ulceration, bleeding, fetor, sepsis, pain, and all the others of the mournful train of symptoms. In connection with this case Dr. Gottheil wanted to sound an earnest note of warning as regarded the use of salvarsan or any other arsenical preparation. A little over two years ago a syphilitic patient of his who had had a chronic leukoplakia for many years, which was possibly just beginning to show the first signs of carcinomatous degeneration, and which could only be improved by mercury, was given a full dose of arsenobenzol. The leukoplakia was very much improved; but the carcinomatous degeneration progressed rapidly to a fatal termination.

DR. KINCH said that he was inclined to agree with Dr. Gottheil on account of the slow development of the case. He said it might be well to make a microscopic examination of the tissue, but in that case the patient should be prepared for operation immediately, should the lesion prove to be carcinomatous.

*(To be continued.)*

REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

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JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Oct. 19, 1912, lix, No. 16.)

(Continued from page 303.)

Abstracted by FRANK E. SIMPSON, M.D.

**Pellagra: Observations on Some of its Nervous Manifestations.** DAVID EDWARD HOAG, p. 1445.

Hoag notes the long list of neurologic symptoms that may be present in pellagra. The relation of insanity to this disease demands further study. Many insane people have later become pellagrous and, *vice versa*, many pellagrins are sane. All classes are affected alike in this country, while in Italy it seems confined to the poor. In most cases observed by Hoag there has been a definite history of corn products used for food. Many patients with hookworm disease have later developed pellagra, and the relationship, if any, between the two should be studied.

(*Ibidem*, Oct. 26, 1912, lix, No. 17.)

**Psoriasis; the Value of Baths and of Maceration in its Treatment.** DOUGLASS W. MONTGOMERY, p. 1520.

Montgomery makes a plea for the use of warm baths in the treatment of psoriasis. If possible, these should be prolonged, while soap and pumice stone may be used to increase their effects. Sulphur, and especially potassium permanganate baths, are advised under certain conditions, and tar baths are excellent. Maceration of the skin by enveloping it in impermeable dressings, first recommended by Hebra, is sometimes brilliantly effective. Several useful formulæ are appended.

NEW YORK MEDICAL JOURNAL.

(Nov. 16, 1912, xcvi, No. 20.)

Abstracted by FRANK E. SIMPSON, M.D.

**The Rational Therapy of Syphilis in the Light of Recent Investigations.** J. S. EISENSTAEDT, p. 1014.

Eisenstaedt believes that the most efficient treatment of syphilis to-day is the combined salvarsan-mercury medication. The exact technique must be modified to suit different stages and cases. The intravenous administration of salvarsan is indicated in certain impending syphilitic accidents, in primary syphilis and in cases refractory to mercury. This should be followed, however, by prolonged mercury treatment.

The author agrees with Hoffman that oily emulsions of calomel or mercury salicylate given intramuscularly are the most efficacious. Inunctions are powerful, but lack the elegance of injections. Pills of mercury internally are proper adjuvants. The patient may be regarded as cured when he is free from clinical signs and has had a series of negative Wassermann reactions, extending over eighteen months.

(Ibidem, Nov. 16, 1912, xcvi, No. 20.)

**Salvarsan in Leprosy.** CREIGHTON WELLMAN, p. 996.

In a highly interesting and illustrated article Wellman reports on the clinical and laboratory results of the salvarsan treatment of five cases of leprosy. He concludes that in cases where the patient is not too weakened from the disease salvarsan may be given without harm. Improvement occurs in early cases, but this may not be permanent. There is no evidence that salvarsan is superior, however, to other forms of arsenic.

**High Frequency Currents in Eczema.** E. G. CHARBONNEAU, p. 742.

Charbonneau reports a case of infantile eczema in which gratifying results were obtained by the use of high-frequency currents.

**Tuberculous Glands of the Neck Cured by X-Ray.** MAX STRUNSKY, p. 743.

Strunsky reports the case of a girl, fifteen years old, suffering from tuberculous glands of the neck, which were markedly benefited by X-rays.

**The Specific Complement Deviation Reaction in Gonorrhœa.** JAMES A. GARDNER and G. H. A. CLOWES, p. 734.

Gardner and Clowes have reported a series of one hundred and eighty-five cases in which the complement fixation test for gonorrhœa has been carried out. A polyvalent gonorrhœal antigen was used according to the method of Schwartz and McNeil. The method gives remarkably reliable results and permits of specific differentiation, even in the presence of syphilis and other diseases exhibiting complement deviation phenomena.

Cases giving a negative gonorrhœal reaction failed on examination to show diplococci, and may be considered as free from the disease. Cases exhibiting a positive Wassermann reaction gave, for the most part, a negative gonorrhœal reaction, but seven cases gave a strong reaction for both diseases. Up to the



present, no normal individual has given a definite positive reaction. The authors consider the test of great value in pregnancy, acute pelvic inflammations, and in the examination of candidates for marriage.

(*Ibidem*, Oct. 12 and Oct. 19, 1912, xcvi, No. 15.)

**Blonds and Brunettes in the Tropics.** CHARLES E. WOODRUFF, pp. 721 and 783.

In a long, interesting and somewhat controversial article, Woodruff reviews some of the evidence as to whether blonds or brunettes are most fit for tropical service and existence. The author maintains a previously expressed view that the pigment of the skin is a direct protection against the evil effects of excessive sunlight.

Parenchymatous nephritis is an essentially climatic disease in migrants in hot climates, and is due to lack of pigmentation. He quotes Duncan and Sambon to the effect that orange-red is the best sun-protecting color. The relation of light to tropical anæmia, to blood pressure, etc., are considered. The trend of the article is toward proving the deleterious effects of light, as seen in the tropics, on those unprotected by sufficient pigmentation.

(*Ibidem*, Oct. 5, 1912, xcvi, No. 14.)

**Skin Diseases in Relation to the Sexual Organs.** S. POLLITZER, p. 669.

Pollitzer explains the dermatoses occurring in pregnancy and disorders in the genital sphere as due to the presence of chemical products in the blood that act like certain drugs in some individuals. Acne vulgaris is related to the sexual apparatus only in so far as local circulatory changes in the skin occur at puberty, which favor infection. A certain relation exists between menstruation and certain dermatoses. Acne rosacea, erythema multiforme, some cases of purpura, urticaria and herpes may be mentioned as bearing a probable relation. Hypertrichosis may be due to inadequate ovarian secretion. Hyperpigmentation may be the result of secondary disturbances in the function of the adrenals, due to the action of the ovarian secretion. Herpes gestationis and impetigo herpetiformis bear a relation to pregnancy.

Pruritus, urticaria and the dermatides of pregnancy are possibly variations of the effect of a single toxic agent, which may cause hyperæmesis, nephritis, hepatitis, and eclampsia. Luise brought about a prompt cure in a series of dermatoses in pregnant women by the intravenous or subcutaneous injection of 20 to 30 cc. of serum from the blood of healthy pregnant women.

Brickner has pointed out the occurrence of molluscum fibrosum in great numbers, some of them pigmented, during the second half of pregnancy, and their disappearance after parturition.

Acanthosis nigricans, first described by the author, is usually associated with malignant diseases of the pelvic or abdominal organs. The neoplasm possibly interferes with the function of the abdominal sympathetic ganglia and the adrenals. Pollitzer emphasizes the fact that the traditional notions of reflex action must be supplanted by the theory of internal chemical secretions as the cause of this class of dermatoses.

**Syphilis and Gonorrhœa as Depicted in the "Songes Drolatiques de Pantagruel."** CHARLES GREENE CUMSTON, p. 579.

Cumston gives historical illustrations of syphilis and gonorrhœa as depicted in the "Songes Drolatiques de Pantagruel."

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(*Ibidem*, Sept. 21, 1912, xcvi, No. 12.)

**Skin Diseases in Relation to the Nervous System.** S. POLLITZER, p. 574.

Pollitzer divides diseases of this class into three groups. 1. Skin diseases whose connection with the nervous system is established by their constant association with nerve lesions. 2. Those occurring in connection with the great organic nerve diseases. 3. So-called vaso-motor trophic neuroses—the connection of some of which with nerve disorder being hypothetical. Only one disease can be included in the first category, viz., herpes zoster.

In the second class, it must be noted that skin lesions may occur which have no relation to the nerve disorder. Bullous eruptions occur, whose connection with paresis is probable. In cord diseases (tabes and syringomyelia), perforating ulcer and whitlows may occur. In the third group, erythromelalgia and Raynaud's disease may be included. The rôle of the vasomotor nerves in the production of skin diseases is of importance. Thus hyperæmia may produce a *locus minoris resistentiæ*. In general, diseases of the nervous system play a less important part in the production of skin disorders than was formerly thought.

To-day we regard external infections and internal toxæmic conditions as the principal factors.

**Endourethral Chancre.** EDWARD H. MARSH, p. 480.

Marsh reports two cases of endourethral chancre which illustrates the necessity for a careful and systematic examination of venereal patients.

**The Wassermann Test.** D. M. KAPLAN, p. 473.

Kaplan writes of some of the shortcomings of the Wassermann reaction. Other diseases than syphilis may give a positive reaction. These are leprosy, frambœsia, malaria, scarlet fever, and at times measles and scleroderma. The question of proper standardization of the amboceptor and other points in the technique of the Wassermann reaction are interestingly discussed.

(*Ibidem*, Nov. 23, 1912, xcvi, No. 21.)

**Therapy of Syphilis.** J. L. MORTIMER, p. 1072.

Mortimer believes that the treatment of syphilis should be started at the earliest possible moment. Mercury is a true syphilis remedy. Iodides have slight curative properties. Salvarsan is the most powerful spirilloicide. It is of special value where mercury fails. The injury to the nervous system, formerly attributed to salvarsan, has not been proved, and is probably due to a recurrence of the luetic process.

Advanced cachexia, tabes and paresis and changes (associated with advanced alcoholism) in the circulatory system are contraindications. The intravenous method is advised. Combined salvarsan and mercury treatment is the most efficacious. As to the prognosis, one must possess continuous negative Wassermann reactions to be assured of complete cure.

### BRITISH MEDICAL JOURNAL.

(Aug. 17, 1912, No. 2694.)

Abstracted by FRANK E. SIMPSON, M.D.

**Congenital Syphilitic Deafness Treated by Salvarsan.** GEORGE NIXON BIGGS, p. 348.

Biggs reports the case of a woman, aged twenty-two, who became completely deaf within forty-eight hours. Old interstitial keratitis was also recognized and

a Wassermann reaction was positive. In the next three months three intravenous injections of salvarsan were given, with marked improvement, which, however, did not persist. Mercury and iodide of potash were then given, with the result that the hearing, while not completely normal, had been greatly benefited.

(*Ibidem*, Sept. 21, 1912, No. 2699.)

**The Contagiousness of Leprosy.** J. W. LANDSAY, p. 682.

Lindsay, writing from Belén, Paraguay, South America, states that it is hardly worth while for medical men living in a leprosy country to contradict statements that leprosy is not contagious. He, himself, is thoroughly convinced that it is contagious, and also that it is not hereditary. In Paraguay, leprosy is spreading "like wildfire," and is far more contagious than tuberculous lung disease. The highly significant histories of several families afflicted with leprosy are given. From these and his knowledge of many others Lindsay believes leprosy is spread by contagion either through contact with a leper or his discharges or through conveyance by insects. The disease is due to the bacillus, and has nothing to do with fish eating, as the people in Paraguay do not eat fish. At the beginning of the disease the diagnosis is very difficult, but in leper countries medical men can often diagnose incipient cases.

#### LANCET.

(Sept. 7, 1912, clxxxiii, No. 4645.)

Abstracted by FRANK E. SIMPSON, M.D.

**Note of a Case of Very Exuberant Growth of Molluscum Contagiosum.** WILLIAM CALWELL, p. 694.

Calwell reports a case of molluscum contagiosum in a girl, seventeen years of age. Grouped about the inner canthus of the left eye was a huge mass of confluent nodules, while many discrete lesions were scattered over the forehead and other parts of the face. The growths were removed under ether by scraping. The microscopic examination confirmed the clinical diagnosis. Photographs of the case, both before and after treatment, are appended.

#### JOHNS HOPKINS HOSPITAL BULLETIN.

(January, 1913, xxiv, No. 263.)

Abstracted by R. C. JAMIESON, M.D.

**Malum Perforans in Diabetes Mellitus.** JOHN T. SAMPLE and W. L. GORHAM, p. 28.

The authors have studied seven cases of this disease, and report the clinical findings in detail.

They doubt that the ulcer is due to changes in the peripheral nerves, and place mechanical causes and vascular changes as secondary and contributory in the ætiology of this ulcer. They consider the most rational view of the causation of this condition to be a lessened tissue resistance due to hyperglycemia. This would also explain the occurrence of furuncles and carbuncles, and also the usual coincident improvement of glycosuria and ulcer.

## ARCHIVES OF INTERNAL MEDICINE.

(Dec. 15, 1912, x, No. 6.)

Abstracted by R. C. JAMIESON, M.D.

**Verruga Peruviana and Its Comparative Study in Man and the Ape.** HAROLD NEWTON COLE, p. 668.

In his article Cole takes up the history of the disease as shown by recorded cases. Although the ætiology is unknown, the disease has been proved to be inoculable and confined to a certain definite area in Peru. All humans are susceptible, and even the animals have symptoms similar to those of infected humans.

He describes the general symptoms and the eruption, which he states is in two forms—tubercular and nodular—the former being situated on the anterior surfaces of the legs and arms, the forehead, jaws, nose, eyebrows, knees and elbows, sometimes involving mucous membranes; while in the latter the lesions may vary in size from a walnut to a small orange, are subdermic, either pedunculated or sessile, being found on eyelids, cheekbones, ears, nose and knees. He describes the experimental work that has been done with this disease in inoculating apes. The transmission was successful up to the third generation, but was not carried farther on account of lack of material. No specific organism was found.

(Ibidem, Jan. 15, 1913, xi, No. 1.)

**A Modification of the Technique of the Wassermann Reaction.** A. F. COCA and ELISE S. L'ESPERANCE, p. 84.

Coca and L'Esperance give in detail their modification of the Wassermann reaction, first pointing out the weaknesses of the original test, which, they state, are due to the fact that only the lipid fraction of organ extracts is of value in the test, that there is a large quantity of non-antigenic substances in the original organ extracts, reducing the limits of reliability of the test, while the reacting power of the suspected serum is reduced by heating. The isolated lipid antigen gives much wider range of reliability, but will cause positive reactions in other diseases unless one half the prescribed amount of antigen is used.

Their proposed technique is as follows:

**Antigen.** A finely chopped, fresh ox heart is well shaken with 10 volumes of 95% alcohol, filtered after 5 to 10 days, and evaporated nearly to dryness with an electric fan. The residue is extracted with ether, this extract being also evaporated. This residue is extracted with water-free ether, and centrifugated, the remaining clear solution being mixed with 5 volumes of acetone and thoroughly shaken. The fluid is decanted and the precipitate is shaken several times with fresh acetone. The stock solution is a filtered 2% solution of the lipoids on pure methyl alcohol. Fresh emulsion is made by diluting 1 part of stock solution to 10 parts, with physiological salt solution.

The patient's serum should be obtained within 24 hours of examination to obviate the necessity of inactivating.

**Complement.** 0.1 cc. of a 1 to 10 dilution of fresh guinea-pig serum in physiological salt solution.

**Indicator.** 2% sheep's corpuscles sensitized with 2 or 3 minimum hæmolytic doses of immunized rabbit serum. 0.25 cc. of this suspension is added to each tube.

They use five different quantities of antigen—0.1, 0.05, 0.02, 0.01, 0.001 cc.—and rate their reactions as "strongly positive," "positive," or "weakly positive," according to whether fixation occurs with five, four or three of the largest quantities.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

(Dec. 16, 1912, xv, No. 24.)

Abstracted by R. C. JAMIESON, M.D.

**Note on Copra Itch.** ALDO CASTELLANI, p. 374.

Castellani had often noticed a peculiar papular, pruriginous eruption on workers in copra mills (copra is derived from cocoanuts). The eruption resembles scabies closely with regard to location and appearance of the lesions, except that there are no burrows or cunicula. The parasite is found in large numbers in copra dust, and apparently induces the dermatitis without entering the skin. The disease can be induced experimentally by rubbing the skin with the dust or placing the parasites on the skin under a bandage. Removal of the cause will cure the condition. Recovery is hastened by a 5 to 10% beta naphthol ointment. A complete description of the mite is given, it being described as a minute, white acarus of the genus *Tyroglyphus*.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(February, 1913, cxlv, No. 2.)

Abstracted by R. C. JAMIESON, M.D.

**The Relation of Anaphylaxis to Immunity and Disease.** V. C. VAUGHAN, p. 161.

In a most interesting article Vaughan sums up the present knowledge of this subject. He shows how nonpathogenic organisms may contain enough intracellular poison to kill with minute doses, while pathogenic organisms may contain little or none, the explanation being that the pathogenic organisms are able to multiply in the human body and digest its proteins, while the nonpathogenic are unable to do so.

In producing a state of anaphylaxis or immunity by the injection of certain proteins, the digestive secretions are modified according to the protein used, so that each protein has a specific ferment which acts on no other protein, this process being termed sensitization, and may be transmitted to offspring.

He states that each protein molecule contains two groups—a primary or poisonous group, and a secondary, or, as he terms it, a characteristic group, as it is in the secondary group that proteins differ and in which sensitizing properties lie.

If a reinjection of protein is made before a large amount of the specific ferment is formed, no anaphylactic shock results, but if injection is made later there may be a fatal result. This may be prevented by a preliminary injection of a very small quantity of the dose to be used (in the case of serum), injecting the full dose two hours later, if no symptoms of shock follow the preliminary injection. Anaphylactic shock is usually not to be feared if less than twelve days intervene between the first and second injections.

He takes up in detail the symptoms and causes of serum disease, the immunity produced by vaccination for smallpox and other diseases, the production of fever by protein injection. Hay fever and common colds are local sensitizations, as well as food and drug idiosyncrasies.

In closing, he formulates two biological laws:

1. When the body cells find themselves in contact with, or permeated by, foreign proteins, they tend to elaborate specific ferments, which digest and destroy the foreign proteins.
2. When body cells are attacked by destructive ferments they tend to elaborate antiferments, the function of which are to neutralize the ferments and thus protect the cells.

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**Chronic Purpura and its Treatment with Animal Serum.** H. L. ELSNER and F. M. MEADER, p. 178.

The authors make use of the facts brought out by Weil, that the blood serum of certain animals as well as humans increased the coagulability of the blood; that beef serum was too toxic for use; that the serum should be less than two weeks old, and 15 cc. intravenously or 30 cc. subcutaneously would produce results lasting for fifteen days to several weeks. Local use of serum would favor clotting. Their first case was chronic rheumatic purpura on the whole skin surface. Coagulation time of blood was normal.

Seven injections of serum were given during eighteen months, all being rabbit serum except the first two. A platelet count at the end of this time was about three times the normal. They found that the serum controlled the hæmorrhages, and had a decided tonic effect.

The second case was similar, and received four injections in four months, anaphylactic shock following the third injection.

It is not yet clearly understood what the action of the serum is in controlling the hæmorrhages.

**The Present Value of the Wassermann Reaction.** LINDSAY S. MILNE, p. 197.

This article is a review of the work that has been done with the Wassermann reaction in connection with syphilis. He gives the average per cent. of positive reactions in the various stages: 3 per cent. to 3.6 per cent. in normal persons or those supposedly so, 40 per cent. in the primary stage, 80 to 100 per cent. in the secondary, 80 per cent. in the tertiary, 95 per cent. in congenital, while 56 per cent. of apparently normal women with syphilitic children give a positive reaction. Latent cases show 47 to 65 per cent. positive reactions.

He considers the reaction of especial importance in late syphilis and diseases of the cardio-vascular system, and that tabes and general paresis are true syphilitic diseases.

He has obtained the best results by using fatty extracts fractionated by alcohol, ether and acetone, and has found the human, sheep and ox hæmolytic systems of equal value, the ox system being perhaps the most reliable.

A positive reaction means syphilis, while a negative reaction is not so definite, as any one of a number of different causes might temporarily produce it.

It also shows the superiority of the present methods over previous ones in the treatment of syphilis, as in the last few years it has been shown that the older methods of treating syphilis effected a cure in about one case in every four. It has also shown the inefficiency of the internal administration of mercury as compared to salvarsan and neosalvarsan alone and combined with mercury by hypodermic injection.

### PHILIPPINE JOURNAL OF SCIENCE.

(IV, No. 5.)

Abstracted by R. C. JAMESON, M.D.

**The Cutaneous Reaction in Leprosy. Preliminary Report.** OSCAR TEAGUE, p. 323.

Teague compares the cutaneous reaction in leprosy to the cutaneous tuberculin reaction, extracts for this purpose being prepared in a similar way to old tuberculin. Extracts were made from nodules of living lepers and dead lepers, from a dead leper's spleen and a control from the skin of a cholera corpse. Fifty lepers were vaccinated with these extracts and controls, but no difference

was discovered in the reactions except in a few cases with doubtful reaction. Further experiments were to be made later.

**The Nastin Treatment of Leprosy.** OSCAR TEAGUE, p. 329.

Nastin is the name applied to a glyceride of a fatty acid which was obtained in 1904 by Deycka Pascha and Reschad Bey, after isolating a streptothrix from an excised leprosy nodule. It was claimed that by injections of nastin an active immunity was established against the resistant fatty substance in lepra bacilli, rendering them destructible. Teague tried the remedy in several cases without benefit, and concludes that this streptothrix bears no relation to the lepra bacillus, that it is a purely empirical drug treatment and not a vaccine.

INTERSTATE MEDICAL JOURNAL.

(November, 1912, xix, No. 11.)

Abstracted by LOUIS CHARGIN, M.D.

**The Treatment of Hæmorrhagic Conditions with Normal Human Blood Serum.**

L. A. LEVINSON, p. 934.

The following is culled from the author's conclusions, which embody the essence of this excellent article.

The term hæmorrhagic diseases of childhood includes a number of conditions and diseases, not as yet accurately classified, in which the hæmorrhage dominates the clinical picture. It is probable that a number of organisms are capable of producing this condition in childhood. Efforts to check the hæmorrhage by calcium, gelatin, adrenalin, styptics and animal serum have been unsatisfactory. Human serum is nearly a specific, and should be used in all hæmorrhages of childhood, 10 cc. or more being administered subcutaneously every three or four hours, and should be continued a short time after the hæmorrhage ceases. It never produces toxic results. The author reports three cases, showing the remarkable effect in two of them.

**Some Observations on the Diagnosis and Treatment of Syphilis in Pregnancy.**

R. H. DAVIS, p. 958.

Davis reviews the subject, and reports a case of virulent lues in which active treatment during five pregnancies resulted in living children in each instance. These children are apparently healthy, except as follows:

The oldest at one month showed a hydrocele, which disappeared under mercury. This child has well-marked scaphoid scapulae. The second child has them less marked and the third, least. Otherwise no luetic manifestations were ever observed.

**Syphilis of the Stomach, with a Report of Two Cases of Syphilitic Tumors.**

J. S. MYER, p. 974.

Myer states that tolerance of the stomach for the iodides in chronic gastritis or ulcer points to the probable specific nature of the affection. Where this is the case the remedy should be pushed to the limit. In doubtful tumor of the stomach, not causing obstruction, it is well to institute antiluetic treatment for a time at least. Where obstruction occurs gastro-enterostomy is first indicated, and this followed by antisyphilitic treatment. Two interesting cases are reported.

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**Gumma of the Prostate with Report of a Case.** A. H. COOK, p. 980.

The patient, aged thirty-eight years, gave a luetic history of nine years' duration, inadequately treated. His present trouble began five months ago, and consisted of frequent and difficult urination, a sensation of fullness in the perineum, which became painful upon defecation, when constipated; deep pain in the perineum after coitus. One month ago a urethral discharge appeared. He had lost twenty pounds in weight. Upon examination he presented pigmented scars over both tibiae and a necrotic subperiosteal gumma of the left tibia. There was a slight thin, sticky brownish urethral discharge, which showed numerous red blood corpuscles, pus cells, epithelium and corpora amylacea. No gonococci. The palpated prostate was large, of the consistency of a hard rubber ball, pressure causing pain and increased discharge; the rectal wall was movable, and there was no indication of fixation. A diagnosis of bone gumma and malignancy of the prostate was made. The patient refused to consider operative interference. Anti-syphilitic treatment (inunctions, salvarsan and potassium iodide) was instituted for the luetic process, with the result that both the bone and prostate affections cleared up entirely in a period of six weeks. The final diagnosis, then, is gummata of bone and prostate. The writer notes that but five cases of prostatic gumma are reported. In discussing the differential diagnosis the author points out that there is but little difference between the two conditions. Age seems to be of some importance, however, carcinoma occurring after fifty, sarcoma before twenty, prostatic gumma between these ages. A further distinguishing point is the lack of urethral discharge in malignancy.

(December, 1912, xix, No. 12.)

**Treatment of Human Cancer with Intravenous Injections of Colloidal Copper.**

L. LOEB, C. MCCLURG AND W. SWEET, p. 1015.

With a colloidal solution of copper prepared according to Bredig's method, the authors have succeeded in causing a gradual retrogression of cancerous growths. The process appears to be a dry cicatrization. The injections are given daily and intravenously, 300 to 400 cc. of the solution at body temperature being used. Some reaction (chill, rise of temperature) follows, which, however, subsides in about six hours. Experiments have thus far been especially done with visible tumors (neck, nose, jaw, chest wall, mammae), so that the changes could be noted with the naked eye. All cases reported in this paper had been either operated or X-rayed without success. A detailed description of eight cases is given. Two of these had internal metastases and terminated fatally. The other six have shown marked retrogression. As many as 37 injections have been given to one patient of this series. The authors state that final judgment must for the present be suspended. They hope that further investigation will lead to wider applicability of this method of treatment. They propose to give it a trial in sarcoma and psoriasis.

**Eczema as Seen by the General Practitioner.** A. RAVOGLI, p. 105.

Ravogli gives a comprehensive and excellent discussion of the general subject of eczema, and expresses his conviction of the parasitic theory of its aetiology. He finds three factors active in the causation of eczema; first, an irritant traumatic, chemical or physical; second, the action of the staphylococci; third, the reactive property of the skin, which is connected with a peculiar condition of the organism, anaphylaxis. The variety of eczema, vesicular, etc., he thinks is incidental, and is dependent upon the degree of inflammation and the sensibility of the skin. He recommends cleansing of eczematous surfaces and permits a liberal diet, excepting such articles of food capable of producing fermentation and increasing the irritability of the skin. Of course, the general condition must be looked to. Vaccine therapy has not yielded him good results.



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### CALIFORNIA STATE JOURNAL OF MEDICINE.

(July, 1912, x, No. 7.)

Abstracted by LOUIS CHARGIN, M.D.

#### **The Tuberculides as Observed in Southern California.** R. WILLIAMS, p. 294.

One would suppose, the author states, that in Southern California, where thousands come for tuberculous conditions of the lungs, that diseases closely associated would be comparatively common. However, they are quite rare; certainly not more common than elsewhere.

### UNIVERSITY OF TORONTO MEDICAL BULLETIN.

(July, 1912, i, No. 1.)

Abstracted by LOUIS CHARGIN, M.D.

#### **A Case of Carcinoma Arising from a Lupus Scar.** G. CHAMBERS, p. 57.

Thirty-seven years ago, when four years of age, this patient developed a wart-like lesion on the cheek. At ten, excision was resorted to, but it soon recurred. Subsequent treatment with caustics, electric needle and "drawing-plasters" failed. At thirty-four years Röntgen therapy was instituted, and continued off and on for four or five years. One year ago a wart-like growth appeared on the centre of the affected area. At present, examination showed an extensive scar on the left side of the face, involving the cheek, chin, nose and ear. Lupus nodules were present on the bridge of the nose and in the region of the eyebrow. On the lower part of the cheek there was an ulcerated growth  $1\frac{1}{2}$  inches in diameter, which microscopically proved to be carcinoma. Whether it developed from lupus or scar tissue cannot be stated. The treatment consisted of curettment, acid nitrate of mercury and X-ray.

### WISCONSIN MEDICAL JOURNAL.

(August, 1912, xi, No. 3.)

Abstracted by LOUIS CHARGIN, M.D.

#### **Pellagra, with a Report of Four Cases Occurring in Milwaukee.** O. FOERSTER, p. 76.

A good review with a report of four cases only one of which originated in Wisconsin (Milwaukee).

### JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION.

(October, 1912, ix, No. 4.)

Abstracted by LOUIS CHARGIN, M.D.

#### **Epithelioma of the Lower Lip, with Report of a Case.** E. H. SKINNER, p. 114.

The writer reports a case of epithelioma of the lower lip successfully treated with X-ray. It had recurred following excision and the use of arsenic paste. Twenty-four exposures were required. The ray was measured by the Holtzknecht radiometer,  $\frac{1}{2}$ H. being given each time.

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(*Ibidem*, 1912, ix, No. 5.)

**Lessons from Recent Advances in Syphilis and Gonorrhœa: The Wassermann Reaction, the Weil Test, the Luetin Test, the Gonorrhœal Complement Fixation Test.** R. GRADWOHL, p. 146.

The writer reviews the laboratory aids in the diagnosis of lues and gonorrhœa. His experience with Weil's test (150 cases, mostly lues of central nervous system) leads him to state that it does not appear to have any advantages over the Wassermann test.

### POST GRADUATE.

(October, 1912, xxvii, No. 10.)

Abstracted by LOUIS CHARGIN, M.D.

**Noguchi's Butyric Acid Test.** M. C. PEASE, JR., p. 897.

In a short note the writer emphasizes the value of this reaction in affections of the cerebro-spinal system. A description of the reaction is given.

### NEW YORK STATE JOURNAL OF MEDICINE.

(October, 1912, xii, No. 10.)

Abstracted by LOUIS CHARGIN, M.D.

**The Present Status of Cancer.** R. G. LAPP, p. 609.

The author gives it as his belief that if we accept as truths for practical application, the localized nature of early cancer involvement, the precancerous nature of many chronic inflammations, the reality of cell implantation during operation, and that if the public is apprised of the dangers, and early operative interference urged, a marked decrease in the incidence of cancer will be observed.

### MEDICAL REVIEW OF REVIEWS.

(November, 1912, xviii, No. 12.)

Abstracted by LOUIS CHARGIN, M.D.

**The Present Status of Treponema Tests.** G. R. WILLIAMS, p. 768.

Williams defends the ink method of detecting the treponema. He does not indeed decry the more accurate methods (dark field illumination, etc.), where the facilities exist, but insists that there is little likelihood to error with the former, when employed by those used to routine microscopic work.

### AMERICAN PRACTITIONER.

(November, 1912, xlii, No. 91.)

Abstracted by LOUIS CHARGIN, M.D.

**The Diagnosis of Pellagra.** C. H. LAVINDER, p. 568.

An excellent presentation of the symptoms and diagnosis of pellagra.

SOUTHERN MEDICAL JOURNAL.

(November, 1912, v, No. 10.)

Abstracted by LOUIS CHARGIN, M.D.

**The Relation of Warts and Moles to Malignant Growths.** G. L. WINTHROP, p. 681.

The author pleads for the early removal of warts and moles. He says, "Let us see in these benign skin growths the parent nuclei of fatal neoplasms and, by prophylactic removal, avert later hopeless operative procedures."

JOURNAL RECORD OF MEDICINE.

(November, 1912, lix, No. 8.)

Abstracted by LOUIS CHARGIN, M.D.

**Five Cases of Pellagra Tréated with Gelsemium.** R. BLOSSER, p. 423.

In endeavoring to relieve a pellagrous patient with severe pain in the feet, the author tried gelsemium with remarkable results upon the pellagra. Five cases are reported, all of which improved under its use. Three or four drops of the fluid extract were given every four hours. An overdose must be guarded against. This will be shown by the drooping eyelids and in some cases by diplopia.

LANCET CLINIC.

(Nov. 23, 1912, cviii, No. 21.)

Abstracted by LOUIS CHARGIN, M.D.

**Borderline Cases of Pityriasis Rosea and Tinea Circinata.** M. SCHOLTZ, p. 594.

Scholtz records three cases, two of the mixed type of pityriasis rosea and tinea circinata and one in which there was a tendency toward the borderline type of eruption.

Case 1 presented an itching eruption on both sides of the mons pubis, made up of dry, dark reddish, punctate papules and oval patches, producing a lesion with a festooned, polycyclic border and leaving numberless, minute areas of normal skin. Scattered over the body were variously sized circinate patches with elevated, scaling borders and clearing centres, strongly suggesting pityriasis rosea. Scraping showed mycelia and tiny spores resembling the microsporon fungus. Except in the genito-crural fold, the eruption disappeared after two or three weeks' treatment with tr. iodine and sol. bichloride of mercury, 1 to 500.

Case 2 was similar to this, not so extensive, and did not show the minute clear areas in the centre of the patches, though there was such a tendency.

Case 3 was one of typical eczema marginatum with pityriasis rosea lesions in the axillæ and the primitive patch near the navel. The author considers the first and third cases present fully developed mixed types and that the second clearly showed such a possibility.

(Dec. 14, 1912, cviii, No. 24.)

**Mercury Versus Salvarsan in the Treatment of Syphilis.** E. SCHIELDS, p. 635.

The writer's investigations and personal experience have led him to formulate the following: Salvarsan has been a disappointment. There is some doubt as to

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whether the salvarsan will abort or cure syphilis. From a serological point of view there is a difference between salvarsan and mercury, with the odds against salvarsan. There is a mortality from salvarsan, therefore we are not justified in using it as a routine measure, but should restrict its use to cases where mercury fails and where urgent (threatening perforation, etc.) treatment is required. He states that 100 cases of lues treated for two to four years with injections, inunctions and potassium iodide gave 91% negative serum reactions.

### BOSTON MEDICAL AND SURGICAL JOURNAL.

(Nov. 14, 1912, cxviii, No. 20.)

Abstracted by LOUIS CHARGIN, M.D.

**A New Device for the Safe and Certain Administration of Salvarsan.** W. MCGURN, p. 696.

The author presents a somewhat complicated apparatus for intravenous injections, for which he claims many advantages which are enumerated.

### VIRGINIA MEDICAL SEMI-MONTHLY.

(Nov. 8, 1912, xvii, No. 15.)

Abstracted by LOUIS CHARGIN, M.D.

**Pellagra in the District of Columbia.** H. H. HAZEN, p. 376.

The writer reports a case of pellagra in a seventeen-year-old negress which he believes originated in Washington. Laboratory and clinical investigation in this case has yielded no new information. The cell inclusions of Chalmers and Sambon, though carefully searched for, were not found. Hazen expresses his belief that pellagra is on the increase around Washington.

**The Sociological Aspect of Pellagra.** L. B. MEYERS, p. 380.

Meyers urges better "team work" among the agencies active in working out the problems (medical and sociological) that present themselves in pellagra.

(Nov. 22, and Dec. 13, 1912, xvii, Nos. 16 and 17.)

**Pellagra in Maryland.** C. ROHRER, p. 402.

**Clinical and Pathological Notes on Pellagra.** C. ROHRER, p. 417.

A report and an analysis of 31 cases of pellagra found in Maryland. Nothing essentially new.

### CANADIAN MEDICAL ASSOCIATION JOURNAL.

(December, 1912, ii, No. 12.)

Abstracted by LOUIS CHARGIN, M.D.

**The Treatment of Nævus with Solid Carbon Dioxide.** E. A. SMITH, p. 1113.

This is a report on the treatment of 50 nævæ with solid carbon dioxide, with the usual satisfactory results. In young children, applications lasting not longer than fifteen seconds are advised.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

JUNE, 1913

NO. 6

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## EDITORIAL.

### ALOPECIA PRÆMATURA.

**A**LOPECIA præmatura may be defined as a falling of the hair occurring from any other cause than that which produces senile decay. It is customary to classify it as idiopathic and symptomatic.

The idiopathic variety is said to occur independently of any local or constitutional disease and in its general course to resemble senile alopecia. Strictly speaking, therefore, under this division should be included only such cases as show the same lack of regenerative power as exists in the senile form. These cases are comparatively rare and usually carry the history of a similar condition in preceding generations. One may find in them other distinctive hereditary traits, as defective teeth or nails, peculiarities of cranial development, or unusual types of character.

The variety usually seen is the symptomatic and for this many causes have been suggested by various writers, some taking a directly opposite view from others, as is always the case when exact knowledge is lacking.

It is stated that men are more frequently bald than women, while the latter suffer more often from loss of hair. But is this in reality a fact? Are not the appearances more apparent than real and were a woman's hair short like a man's, would the difference be so marked? It is not at all uncommon to see in women, and young women at that, extremely thin areas over the frontal and parietal regions and at times about the vertex, which they are able to cleverly conceal by an arrangement of the long locks. The long, apparently luxurious pompadour of the musician is not always as thick as first appearances would suggest and a close inspection frequently shows the hair sparsely placed. The aborig-

ines, who have the reputation of having such heavy heads of hair, when robbed of various foreign substances which they interweave with it, often give quite a different appearance.

As a matter of fact, from our aetiological point of view, women ought to be more frequently bald than men, for they are more often under nervous tension and go through more varied and extensive systemic disturbances.

Is it not possible that the cutting of men's hair from generation to generation has produced a gradual loss of productive power? It is certainly a fact, that cutting the hair increases the rapidity of its growth and if the papilla is capable of producing hair for but a certain period, why should not this call for increased production use up the activity of the papilla sooner?

It can fairly be said, that anything which unbalances the system in any way, however slightly, may cause alopecia. As a rule, the more marked the general disturbance, the greater the alopecia, but this is not always the case. At times an exaggerated fall of hair may follow a small surgical operation, or slight nervous upset, while a long illness may be followed by practically no abnormal loss of hair. After pregnancy there is always a certain amount of alopecia, which may not be noticed, as the hair grows in again, but if the first pregnancy is followed by one or more in short succession, the thinning becomes evident, since the productive power of the hair follicle has been overtaxed by repeated attempts to keep up with the loss.

A disturbance of the sebaceous glands is almost invariably noticed in cases of alopecia. Whether this is the cause of the alopecia, or merely an accompaniment, remains yet to be proven. There may be an absolute dryness of both scalp and hair; the scalp may be dry and the hair excessively oily, or there may be a seborrhæal deposit on the scalp and an extreme dryness of the hair. Would this variation suggest that the perverted action of the sebaceous glands was responsible for the alopecia, or that some systemic disturbance brought about both conditions? It would seem but fair to consider that this question is as yet unsolved.

It has come to be noticeable to the casual observer that thinning of the hair is much more prevalent than formerly and that this is particularly to be seen in young people. There can hardly be any doubt but that this is due in large part to the excessive activity and tension of the present-day life; but the lack of proper care of the hair and scalp and the introduction of various abusive methods of treatment by barbers, hair-dressers and through the household

columns of the popular magazines and daily press, unquestionably plays a quite important rôle.

Is it not also possible that the treatment suggested in our text-books may as well be somewhat at fault? If conditions of life have changed, it hardly seems rational that we should use the same treatment that we did before these conditions existed. The prescriptions suggested are for the most part of a stimulating nature, producing more or less hyperæmia of the scalp and given with an idea of forcing the growth of hair. Now we know that senile alopecia results from the lack of further productive power in the hair follicle and although we may be able to produce, by stimulating applications, a downy growth when this stage is reached, it will not be permanent. What object do we then attain by forcing the production when the hair is falling and thus hastening what would correspond to the senile stage?

It would certainly seem as if we could obtain better results by trying to eliminate the harmful elements and endeavor to find some means of relieving the strain on the producing power.

GEORGE F. HARDING.

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### MORPHŒA-LIKE EPITHELIOMA.\*

By M. L. HEIDINGSFELD, M.D., Cincinnati.

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IN the *Bulletin de la Société française de dermatologie et de syphiligraphie* for 1899, Danlos<sup>1</sup> described an unusual form of epithelioma, characterized by a large, round plaque of yellowish color, with a narrow border and traversed by numerous small blood vessels which extended from the periphery and converged toward an uneven and somewhat ulcerated centre. The lesion was situated on the nape of the neck. The epitheliomatous character of the lesion was histologically confirmed, and the case was presented as one of epithelioma, morphœa or xanthoma-like in character.

Stelwagon,<sup>2</sup> in June of the same year, demonstrated before the American Dermatological Association a case of flat epithelioma of

\* Presented at the meeting of the Deutsche Naturforscher und Aerzte, in Muenster, i. W., Germany, Sept 15-21, 1912.

the temple region, with a superficial, inch-wide border resembling morphœa. Hartzell,<sup>3</sup> in 1909, described a case of morphœa-like epithelioma in which the lesion was  $\frac{3}{4}$  of an inch long and  $\frac{1}{2}$  of an inch wide, and of five years' duration, situated on the left cheek, in a man fifty years of age. The lesion resembled morphœa so strongly that, despite a small ulcer about the size of a pea, with a thick elevated border at the top, a diagnosis of scleroderma was adhered to until malignancy was established beyond the peradventure of a doubt by a recurrence three years later. Hartzell reported a second case in a woman of 24 years and a third case in a woman 50 years of age, the latter being histologically confirmed. Hartzell added a fourth case, which he had seen in ambulatory practice ten years previously, and which had, at that time, been diagnosed as ulcerating morphœa.

Pernet<sup>5</sup> recently reported a case, accompanied by an excellent illustration, which Radcliffe-Crocker<sup>4</sup> presented to the International Dermatological Congress in 1896, for diagnosis, without avail. The lesion was of two years' duration and measured 1 by  $1\frac{1}{4}$  inches; the color was light yellow, and the surface was traversed by numerous vessels that converged toward the centre. The centre resembled scar tissue and was depressed. The lesion was sharply defined, hard, and of the consistence of leather. Crocker made a provisional diagnosis of neoplastic yellow plaque and Pernet added morphœiform rodent ulcer. The diagnosis of rodent ulcer was confirmed by histological examination in 1899.

#### CLINICAL REPORT.

The writer reports the following case, not only for its unusual and deceptive clinical character, but because these cases afford unusual opportunities for studying the morphological changes in malignant skin affections.

F. E., a man aged thirty-eight years, was first seen on the 7th of May, 1911, and showed an irregularly round, morphœa-like lesion, about the size of a quarter, on the right cheek, between the chin and the nose, the anterior part of the border being near the corner of the mouth. The patient stated that the lesion started as a small nodule three years ago. The centre was yellowish-white in color, hard, and was not sensitive to touch, and of the consistence of sole-leather. The whole centre was somewhat depressed in contrast to the normal skin and was surrounded by a narrow, slightly raised, glistening, pearly-like border. This border scarcely measured 0.2 cm. in width and, with the exception of two points, where progress was arrested by two small scars, was well preserved. The violet hue, characteristic of scleroderma, was nowhere in evidence. The depressed centre was traversed by numerous small vessels. These converged radially from the border toward the centre. A few small, indolent, ulcerative points, scattered irregularly near the border and over the centre of the lesion, healed entirely with applications of arsenical paste, which was applied on June 11 and Dec. 12,



1911, and Feb. 4 and March 17, 1912. The clinical diagnosis of morphœa-like epithelioma was histologically confirmed by three biopsies, made on Oct. 2, 1911, and February 29 and March 24, 1912.

### HISTOLOGICAL REPORT.

Three elliptical pieces of the skin were excised below the level of the subcutaneous fat, in such manner that the infiltrated, elevated border rested transversely in the centre and the ends extended on one side, well into the depressed, cicatrized centre, and the other, well into the normal uninvaded skin. These specimens were imbedded in paraffin and sectioned in their long axis and stained after the usual methods. All the preparations showed uniformly the same structure, namely, a basal-cell epithelioma of Krompecher, subepidermal in character. The progress of the growth, in all its stages of evolution and involution, could be plainly followed in the serials. An unbroken ring of budding epithelium was constantly preserved, which corresponded with the infiltrated, glistening, pearly-like border. The position of this unbroken ring was maintained at the level of the middle-third of the hair follicles. All the differentiated structures, hair, hair follicles, sweat and sebaceous glands, which were in the path of direct invasion, were eventually destroyed by the inflammatory infiltration and diffused fibrosis which the pathologic proliferation called forth. The narrow advancing border, which sharply separated the broad central zone of scar tissue from the normal uninvaded skin, offered unusual facilities for the study of the pathologic process, compared with that of the normal uninvaded skin and the obliterating fibrosis of its own activity in the cicatrized area. The remote origin and genesis of the process could not be conjectured, but it is evident that the malignant nature, when once established, preserved its essence of existence in the narrow zone of the advancing border. An unbroken path was preserved in the ring of cellular pathology, which could be plainly traced from follicle to follicle in the form of budding epithelium. This budding epithelium apparently followed a course of least resistance, and made most rapid and greatest strides in areas rich in glandular structure, and showed the least development, or its further progress was almost entirely arrested in areas that were poor or deficient in glandular structures, such as hair follicles, sweat and sebaceous glands. In the former the epithelial buds assumed considerable size, in the latter, they were reduced to narrow strands. In thin sections, the epithelial buds resembled isolated segments, which have doubtless been often described as "embryonal remains." Their unbroken continuity, however, could be readily traced in the study of the serial sections. The irregular clinical outline of the lesion could be readily explained from the basis of a pathologic "resistentia minoris." The directions in which the growth had extended farthest were, for the most part, rich in glandular structure. Likewise, the various points where the process was entirely arrested, were the seats of cicatrices from a preëxisting acne. The neighboring, uninvolved normal tissue showed little pathologic change. "Embryonal remains," or latent epithelial buds, were nowhere in evidence. The sweat and sebaceous glands and hair follicles showed abnormal proliferation and hypertrophic change in the immediate neighborhood, and the advancing "buds" imparted the impression that the pathologic stimulus, of unknown nature, exerted some stimulating influence upon differentiated structures beyond the immediate zone of baso-cellular pathology.

### GENERAL ANALOGY.

The general analogy of morphœa-like epithelioma is sufficiently similar to rodent ulcer in all its details to warrant no special place

in the already too redundant dermatological nosology. Notwithstanding that the affection possesses some peculiar clinical characteristics, they are scarcely pronounced enough to admit, with ordinary care, an erroneous diagnosis. In many respects, morphœa-like epithelioma is a companion-piece of the so-called "pre-epitheliomatous" affections of the skin, which have been classified under the names of multiple benign cystic epithelioma and cystic epithelioma adenoides of Brooke. Some of the latter cases and some of the older forms of rodent ulcer, present clinical and histological characteristics, in at least the writer's experience, in common with morphœa-like epithelioma.

#### GENERAL DEDUCTIONS.

The skin has long been regarded as a field of special predilection for the study of malignancy in all of its stages. It has been affirmed that malignant changes, from a clinical standpoint, can be recognized earlier, observed more carefully and removed for histologic examination and study more promptly than elsewhere. These advantages appear to be overestimated and possess, morphologically, more apparent than real worth.

It has been stated that the skin offers the best opportunity for the study of the origin and genesis of malignancy, inasmuch as the growth can be promptly removed before malignancy has advanced and because the host of precancerous affections and degenerations of the skin offer inestimable advantages for the recognition and study of early changes. There are relatively few authorities in this special field, who have not ascribed the origin of a particular case to some form of specialized structure; hair follicle, sweat or sebaceous glands, or basal or spinous cellular layer. In the writer's opinion, no malignant tumor of the skin can attain a size sufficiently large to be recognized macroscopically and at the same time permit a demonstration of the origin and genesis of the condition from any particular gland or cellular structure. Its remote origin and development from any gland or cellular structure, can at best, only be conjectured. There are no border-line distinctions sharp enough, between malignancy and benignancy, to permit a histologic recognition of the point where the transition from one to the other takes place.

Under these circumstances, the study of the skin does not offer any advantages over a tumor situated elsewhere. The "stimulus," whatever its nature, still remains an unknown quantity. It exercises

PLATE XVII.—To illustrate article on Morphœa-Like Epithelioma by Dr. M.  
L. HEIDINGSFELD.



Fig. 2.  
General histologic structure. Strands of budding epithelioma advancing from left to right. Low power.



Fig. 1.  
Showing the morphœa-like lesion.



PLATE XVIII.—To illustrate article on Morphœa-Like Epithelioma by Dr.  
M. L. HEIDINGSFELD.



Fig. 3.

Epithelial buds or strands, advancing from left to right. General structure that of the baso-cellular type of Krompecher. High power magnification.

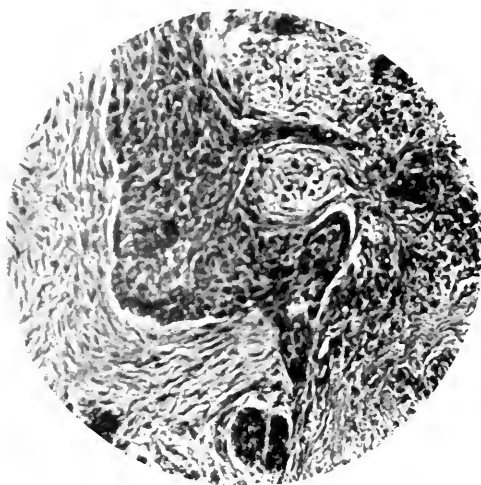


Fig. 4.

Epithelial bud or "strand" receding from left to right. Shows degenerative changes in the epithelial structure, surrounded by inflammatory reaction and diffused fibrosis. High power.

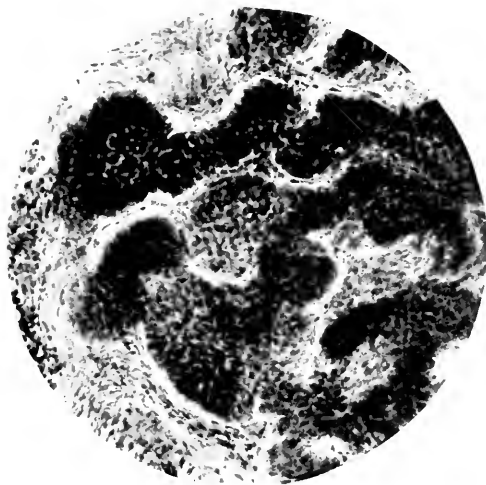


Fig. 5.

Epithelial buds advancing from left to right and arranged as in cylindroma type of Krompecher. High power.



its influence over all the epithelial structures in their various forms, apparently in an indirect and undetermined manner. The course of the process varies somewhat according to the special form of epithelial structure that is chiefly involved. In the writer's opinion, malignancy of the skin can be conveniently divided into two large groups which preserve for themselves separate clinical and histological characteristics. One embraces the cylindromata and the so-called baso-cellular epitheliomata of Krompecher, in which the subepidermal structures are chiefly involved: all the so-called baso-cellular forms belong in this class and they are apparently not primarily derived, as the name indicates, from the basal cells of the epidermis. The other is the horny or spinous-celled epitheliomata, in which the stimulus exerts its influence chiefly, if not entirely, upon the epidermis and is, as near as can be safely conjectured, primarily derived from some portion of the epidermis, basal as well as spinous layers. In the former we have clinical types of extremely mild character, of slow growth, self-limited nature and usually influenced by treatment. Histologically, the cells are of small type with a relatively large, deeply-stained nucleus. The general structure preserves for itself a more or less adenomatous character. In the latter we have a clinical type that is more destructive, more intractable to treatment, with higher percentage of recurrences and a tendency to invade and destroy neighboring tissue. Histologically, the cells are larger and preserve the character and appearance of the spinous cells. Formation of epithelial plugs and whirls is very constant.

There are exceptional instances where cases transform themselves from one type to the other. The "stimulus" when once firmly established, conserves itself in the unbroken, advancing ring of budding epithelium. So-called "embryonal remains" of Cohnheim, are not demonstrable in uninvaded tissue and the so-called "strands" which have often been described as embryonal remains, are in all probability, artifacts, epithelial buds isolated by the microtome. The strands have never been demonstrable to the writer, in the uninvaded, normal tissue.

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## VERRUGA PERUANA: ITS COMPARATIVE HISTOLOGICAL STUDY IN MAN AND THE APE.\*

BY HAROLD N. COLE, PH.B., M.D.

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AS was shown in a previous paper,<sup>1</sup> verruga peruana is a severe disease of parasitic origin, endemic over a certain inland portion of Peru and is remarkable for an intermittent, remittent or irregular type of fever that precedes, accompanies, or follows a cutaneous eruption; for a rapid and progressive anæmia with involvement of the lymphatics, liver and spleen; and for certain well-known gastric, vascular and nervous disturbances. The cutaneous eruption, appearing most frequently on the face and extremities, is of two types, "miliaire" or miliary and "mulaire" or nodular; while a squamous, sudaminal, vesicular and pustular type of the first are described and Jadassohn<sup>2</sup> in his case speaks of a macular efflorescence. The mucous membranes are also involved and growths resembling verrucæ have been found in the internal organs.

In the patient of Jadassohn's, who was in good general health as shown by thorough examination, except for the cutaneous eruption, there was success in transmitting the disease to apes to the third generation. Further inoculations were unsuccessful inasmuch as the third monkey died shortly after the appearance of the tumors, so that further inoculations could not be made with its lesions. Further attempts with the tumors from the second ape into two other ones were unsuccessful as the tumors used were necessarily almost headed lesions. The monkeys appeared to have no symptoms except the eruption of lesions at the inoculated points and in the gross they resembled those of the patient's very closely.

It is the object of this paper to make a comparative histological study of both the lesions from man and from the monkey; to see if they resemble one another in their morphology and constituents and to find out, if possible, whether there are any distinct parasites ascertainable in the lesions.

Considering the object of this study it may be well before taking up the descriptions of the material, to more carefully consider the pathological and parasitological findings of others.

\* From the Dermatology Clinic in Berne, Switzerland (Director, PROF. DR. JOSEPH JADASSOHN).



As far back as 1861 Velez <sup>3</sup> (p. 27) thought that the cutaneous tumors originated in the papillary body of the skin and mucous membranes, though they could originate in other situations. Dounon, Renaud and Cornil <sup>3</sup> (p. 27) made one of the first histological studies and concluded that they were working with a tumor closely allied to the fibrosarcoma. Others have judged them to resemble mycosis fungoides or "lymphadénie cutanée." Letulle, writing in Odriozola's monograph, found a sub-acute proliferation of the connective tissue elements of the dermic and subcutaneous tissues along with direct and indirect divisions of the fixed and endothelial cells. The specific elements of the skin had disappeared entirely, while striking areas of lymph cells, surrounded with a thin endothelial wall, were found scattered through the tissues. No giant cells or caseation were noted. De Vecchi <sup>4</sup> in his excellent study came to the conclusion that the first lesion was a simple hemorrhage from a small vessel, followed by a reaction of the connective tissue elements. Later new blood vessels were formed, which easily rupturing, caused a loss of nutrition to the parts and consequent necrosis of the tissues. Escomel <sup>5</sup> deserves credit for attempting to make a systematic study of the life history of a "verrucome" as he calls the tumors. He believes that the microbe circulates in the blood, and when coming to a spot where the circulation is slow and where there is a favorable medium, *c. g.*, the skin, it begins to multiply. The neighboring leucocytic elements are immediately attracted to the spot, multiply rapidly, and cause a leucocytic infiltration, followed later by an increased blood supply. The regression takes place by means of "nécrobiose cellulaire," "phagocytose" and "resorption plasmatique."

There is some difference of opinion in regard to the bacteriological and parasitological findings. Shortly after the young medical student, Daniel Carrion, had died from Oroya fever, following the inoculation 39 days before from a case of verruga, Izquierdo <sup>6</sup> announced that he had discovered an acid-fast bacillus as causing the disease. Since then Nicolle,<sup>7</sup> Giltner,<sup>16</sup> and Letulle, writing in Odriozola's monograph, have made the same findings and Letulle has also found the organism in the internal lesions of the disease. Escomel has also found a bacillus, but gives no details as to its staining qualities. Barton <sup>4</sup> in cases of the severe type of Carrion's disease \* with fever has isolated an organism corresponding closely to the paratyphoid bacillus

\* Carrion's disease is a synonymous term for verruga peruana proposed by Prof. Odriozola in honor of the young medical student. He divides the affection into "fièvre grave de Carrion" or Oroya fever and "eruption de Carrion"; according as the eruption or fever predominates in the symptoms.

"type B"; and Biffi<sup>13</sup> and de Vecchi<sup>4</sup> have corroborated his work. On the other hand Mayer,<sup>9</sup> Basset-Smith,<sup>10</sup> de Vecchi<sup>4</sup> and Galli-Valerio<sup>11</sup> have noted in the cases with severe anæmia the presence of small inclusions in the red cells in blood smears and in the tissues. From their staining qualities and constant presence the authors deem them to be of a parasitic nature and not cellular degenerations. Especially do they take this ground, since from some unknown cause the patients suffer from such a rapidly appearing anæmia, that they feel there must be some parasite destroying the red cells. Galli-Valerio,<sup>11</sup> with the Giemsa stain for the red cells, has found in one case very small bodies surrounded with a clear areola and strongly resembling "anaplasma marginale" described by Theiler<sup>13</sup> in the erythrocytes of African cattle.

Suffice it to say that in Jadassohn's case, in neither smear preparations of the blood and tissues nor in stained preparations of the tissues, has any parasite or organism been found except secondary invading cocci and bacilli. Such was also true of the examinations of tissues and blood from the apes, though Gram's, Gram-Weigert's, polychrome methylene blue, Manson's methylene blue, Levaditi's, Loeffler's methylene blue, tubercle bacillus stains, Mallory's eosin methylene blue, Mann's, von Krogh's<sup>14</sup> method with polychrome methylene blue<sup>4</sup> and Giemsa's stain have been used.

In regard to the histology of the tumors, careful study of the lesions from both the patient and from the apes show them to correspond so closely in their structure, constituents and mode of formation that there is no need of describing them separately and the writer will only attempt to picture them at their different stages of development and regression.

**FORMATIVE STAGE.** The amount of tissue to be studied was, unfortunately, not large enough to allow of a lesion in its formative stage being excised. However, at the sides of the tumors early areas can be seen in their first stages of development. The epidermis shows a high grade of acanthosis and a moderate degree of parakeratosis. The prickle cells are large and healthy appearing and numerous mitoses are seen. As yet there is no infiltration of the epidermal cells—merely an increased nutrition from the slightly œdematous papillæ of the dermis. Examination of the latter reveals some swelling of the collagen fibres and likewise of the elastic tissue fibres from the increased œdema of the tissues. The vessels are somewhat enlarged and their endothelial cells are swollen; but there is still very little cellular infiltration around them. However, all these changes are not so characteristic but that they may be due in part to the in-

flammatory reaction from the main tumor. But here and there scattered through the corium one finds large and small areas of cellular infiltration, made up of plasma cells, lymphocytes and polymorphonuclear leucocytes in about equal proportions. While inside of these areas one finds one or two or three small lymph capillaries with swollen endothelial lining and a lumen choked with white cells. One or two small blood capillaries may also be seen. A few young fibroblasts are mixed in among the numerous plasma cells present and all the cellular elements are actively dividing both by direct and indirect methods.

**HEIGHT OF THE PROCESS.** In the gross, specimens are about 1.5 cm. in length and from .5 to 1. cm. high. Examination with the eye-piece of the microscope reveals an epidermis approaching to the normal at the edges of the tumor, while at the centre there is a bulbous growth or upheaval from the underlying corium, forcing up the epidermis and forming a prominent tubercle. It is well expressed by Brault<sup>12</sup> "*L'épidermie est comme tassée, aminci par la tumeur sous-jacente.*" This tubercle is in intimate connection with the underlying tissues in the middle of the tumor, where a wide zone of connective tissue connects the subcutaneous tissue with the dermis of the tumor; while, as we approach the borders of the tumor the epidermal layers on the two sides progressively approach one another.

With the higher powers of the microscope one finds the epidermis over these lesions, when present, to be low and containing no inter-papillary processes. Instead of strata corneum, lucidum and granulosum there is a prickle cell layer continued right up to the exterior, where a few incompletely dried-out cells form the external layers of the epidermis. This latter is very œdematous and in many places small intra- and extracellular vesicles are noted. There is, also, an infiltration of red blood cells and leucocytes between the cells of the stratum spinosum. In the corium itself there is a marked œdema of the tissues, it being present throughout the entire tumor and forcing the tissues apart. An exudate of fibrin is also to be noted, while the collagen and elastic tissue fibres are swollen and separated and very scarce in spots. No glandular or nerve tissue is to be seen, but in the heavy, serous exudate there is a great outpouring of cells of all kinds. Strange as it may seem, even in the most acute areas the polymorphonuclear leucocytes are not in the majority—rather the large and small mononuclears. These latter appear to be well nourished, they are relatively large and many mitotic and amitotic divisions are seen. There is a copious sprinkling of free red blood cells throughout the tissues and many plasma cells are present. And

I have the impression that in these places all the stages from a plasma cell to the full-grown fibroblast are to be seen. The latter are large and plentiful, run in all directions and have long whiplike ends. In some spots they appear to be shaping themselves to extend in a definite direction and to form concentric layers about prominent leucocytic areas. In the smallest of these areas one merely finds a slight collection of white cells surrounding a lymph capillary, the latter having swollen endothelial cells and containing 2 to 4 or 5 leucocytes in its lumen. In larger areas the lymph vessel has reached greater proportions, the surrounding cellular exudate is greater and now one generally finds one or two blood capillaries in the immediate neighborhood. In still larger areas the lymph vessel has reached quite large proportions, its walls are tense and its lumen choked with large, fat leucocytes, while surrounding it is a heavy exudate of mono- and polymorphonuclear leucocytes, red blood cells, plasma cells and young fibroblasts. Or, if the lymph capillary has already ruptured, as one can recognize from irregular masses of leucocytes with a partially intact endothelial wall surrounding them, one merely finds a mass into which young fibroblasts and plasma cells are rapidly entering. This is the height of the inflammation and at this time around the periphery of the tumor there are long, large blood spaces with much swollen endothelial walls and from these spaces long, fine capillaries are thrown out into the surrounding tissues. As already mentioned, very many capillaries are seen everywhere. The deeper vessels also show some reaction to the inflammatory process.

**DEGENERATION.** In the gross, the tissues have about the same size and appearance as in the tumors already described; except for the fact that with the use of an eye-piece one notes the absence of epidermis over the summit of the new growth. In fact there is a depression or dipping in of the tissue at this point. With the higher powers of the microscope there is found at this point only a necrotic mass, beneath which there is a wall of leucocytes and fibrin, long strands of the latter dipping down into the tissues in all directions. Numerous new-formed, ruptured and unruptured capillaries and blood spaces are intermingled in the exudate below the wall of leucocytes and fibrin. The œdema of the parts is much more marked than in the earlier stages already described. The cellular exudate is much the same, except that one does not see so many polymorphonuclear leucocytes and that more fibroblasts are present. Plasma cells are also still quite numerous. Some of the peculiar areas of leucocytic infiltration already described are to be seen (Fig. 2), only now they are larger and more noticeable. In the smaller ones (a, Fig. 2), at the

periphery, are found large cells of irregular shape in which at times the nucleus can just be made out (Fig. 1); again not at all, while deeply staining masses of hyalin are distributed throughout the protoplasm. (These hyalin masses were definitely demonstrated by Weigert's fibrin stain, by Russell's method of staining for hyalin and by one of Unna's (No. 15) methods, using polychrome methylene blue followed by tannin solution and acid fuchsin, and by another of his methods (No. 15) using hæmatoxylin followed by a 1% safranin solution and a tannin solution. The last stain gave very satisfactory results). In some of the cells there are areas of the protoplasm which do not stain but appear as pale empty vacuoles (Fig. 1). In the centres of the large lymph vessel inclusion areas there is an indistinguishable mass of deeply staining pycnotic material in different forms and hyalin, while here and there the pale outlines of a cell can just be made out. The entire area is surrounded by an endothelial wall still intact, outside of which is a heavy cellular infiltration of fibroblasts, leucocytes, plasma cells, and free red blood cells. In the largest of the leucocytic areas the endothelial wall is no longer intact (Fig. 2) and we find merely an œdematous mass of degeneration products and hyalin into which the fibroblasts are beginning to make entrance. As in the earlier tumors one finds the blood spaces and capillaries at the periphery of the tumor vainly endeavoring to send out sufficient capillary processes into the tissues to supply them with blood. Many capillaries are seen and free red blood cells are very numerous. In several tumors at this stage deep vessels were found in which their walls showed hyaline change, their endothelial walls were separated and their lumina filled with a cellular mass already beginning to organize.

#### COURSE OF EVENTS IN THE PRODUCTION OF THE LESIONS.\*

From the small amount of tissue to be studied the process appears to be as follows: Due to some unknown microbe, thus far not found and possibly brought to the parts through the blood channels, the lymph channels become irritated, their endothelial cells swell up and we find a lumen clogged with several white cells. Following this step there is a beginning exudation of white cells and serum, followed later by plasma cells. At the same time, or at least shortly afterward, there is a dilatation of the capillaries, a swelling of their endothelial linings and a cellular exudation

\* De Vecchi<sup>4</sup> thinks that the tumors start generally from the neighborhood of the sweat glands of the skin. In the tissues the writer has had the opportunity to study, they were apparently able to start from any portion of the skin.

around them. As the process continues the lymph channels become more and more clogged and their surrounding cellular and serous exudate likewise increases. It is remarkable, at the height of the process, how many delicate, new-formed capillaries appear in the surrounding tissues and how many red blood cells are seen in the vessels and outside them, mixed in the cellular exudate of the lesion. At this time the numerous new-formed vessels and blood spaces at the periphery of the tumor are present and there is a heavy edema of the tissues, so that it is almost impossible to recognize the normal constituents of the skin. Likewise most of the lymph capillaries are ruptured before this stage, their delicate walls not being able to stand the vascular strain. However, a few survive, as shown in Fig. 2, and become even larger—being surrounded with a heavy exudate of leucocytes, free red blood cells, serum, plasma cells and fibroblasts in all stages of development. But as the surrounding capillaries fail to obtain sufficient nutrition we find the large, healthy cells in the centres of these surviving lymph vessels first beginning to show signs of degeneration. First the chromatin granules are massed together in the nucleus, then deeply staining masses are seen in the protoplasm, while the latter begins to show signs of vacuolization and hyaline change and the nucleus disappears (Fig. 1). Finally, the cell outlines themselves disappear and we have only the masses of degeneration products and hyalin. Beginning in the centre of these large lymph areas, the process extends progressively outward to all the cells as their nutrition fails and we have finally a mass of degeneration products and hyalin within the still intact endothelial wall. Lastly, this also disappears and the surrounding fibroblasts begin to penetrate the mass. Several writers, Letulle<sup>3</sup> (p. 206) in particular, have noted these areas. Escomel<sup>5</sup> (p. 970) terms the individual cells of the same "*cellules verrugueuses*" and says "*les cellules sont disposées en groupes ou isolées les unes des autres par les faisceaux de la trame verrugueuse.*" De Vecchi<sup>4</sup> (p. 27) speaks of seeing the large phagocytic leucocytes that he had found in the spleen, as also appearing in the skin. Is it possible that he meant the cells from these areas?

From this stage on, the regression is rapid. We have already spoken of the vessel showing hyaline change in its walls and an organized thrombus in its lumen. Clinically and histologically, as in other infectious processes, one has the impression that the process of healing is due to some local or general \* immunizing power.

\* In relation to the findings of other authors, notably De Vecchi, I cannot entirely agree, inasmuch as my material showed so much difference. I cannot



Fig. 1.

Representing the border of one of the greatly enlarged lymph spaces. Showing cells with areas of vacuolar degeneration and of hyaline change. Much cellular debris present.

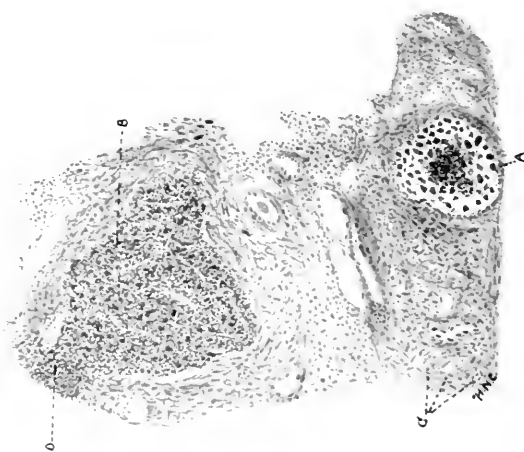


Fig. 2.

A portion of tissue showing a large, intact lymph space (a) choked with cells—many of them with areas of hyaline change; and a larger area, already broken, with the degenerated cells extending into the surrounding tissue.





CONCLUSIONS.

In a case of verruga peruana (eruption de Carrion), with successful transference to the third generation in apes, none of the organisms mentioned as specific for the disease have been found.

The tumors from both the patient and the apes resemble each other very closely in the gross and in their mode of formation and in their constituents.

The tumors are granulomatous in type; they are caused by some unknown organism, probably circulating in the blood and causing an inflammation and obstruction of the lymph channels, along with sub-acute, inflammatory changes and necrosis. As the other granulomata—tuberculosis, syphilis, sporotrichosis, actinomycosis, etc., have their own significant histological changes, so also does verruga peruana, belonging to the same class, have its own characteristic microscopical picture. It is characterized by a dilatation of the lymph vessels and a choking of their lumina with mono- and polymorphonuclear leucocytes; also by an infiltration around these vessels of plasma cells, fibroblasts, mononuclear leucocytes and relatively small numbers of polymorphonuclear leucocytes. It is further characterized by the formation and dilatation of a great number of blood capillaries and by an extravasation of much serum and many red blood cells into the tissues. The lymph vessels either rupture at an early stage or dilate to large dimensions when their cellular contents undergo a pyenotic degeneration and hyaline change, with destruction of the vessel and invasion of the mass by plasma cells and fibroblasts.

EXPLANATION OF ILLUSTRATIONS.

Fig. 1.—The drawing was made with a No. 2 eye-piece and a  $\frac{1}{12}$  oil immersion lens, giving a magnification of 630 diameters. Stained (Unna No. 15) with hæmatoxylin, followed with 1% safranin solution and differentiated with concentrated aqueous tannin solution. The nuclei, collagen fibres and protoplasm are violet and the hyalin tomato red.

The illustration represents a border of one of the greatly enlarged lymph capillaries, showing the œdematous tissues, endothelial lining (C), cells with

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acquiesce with his contention that the red blood cells are taken up by the leucocytes—thus forming the “globulifere Zellen” of which he speaks. I believe these “globulifere Zellen” are merely the large cells described by me as showing the hyaline change. Like De Vecchi, at no time have I found giant cells in my preparations from the skin lesions, though De Vecchi and Nicolle have found them in the lesions from internal organs. I would also like to especially mention that I have not found the pure or predominating fibroblastic structures described by him and I cannot attribute such a prominent or even primary signification to the hæmorrhagic lesions.

vacuolar degeneration (B), and areas of hyalin (A and D) within and without the cells. All the cells show more or less appearance of degeneration and cellular degeneration products are noted within the lymph capillary and between the cells.

Fig. 2.—This is a drawing made with a No. 2 eye-piece and a No. 3 nose-piece, giving a magnification of 70 diameters and enlarged once. The tissue was stained with Weigert's modification of Van Gieson's stain.

The tissue shows many new-formed capillaries (C) and an infiltration with cells mostly mononuclear or plasma in type and with fibroblasts. At (A) is a still intact lymph inclusion area with the large peripheral cells showing the areas of hyaline degeneration. In the centre of the lymph vessel there is only a mass of pycnotic degeneration and of hyaline change. At (B) is still an older lymph vessel containing only pycnotic degeneration material, while at (D) the area has already ruptured.

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NEGATIVE WASSERMANN REACTION IN UNTREATED  
TERTIARY SYPHILIS OF THE SKIN AND  
MUCOUS MEMBRANES.\*

By O. H. FOERSTER, M.D., Milwaukee.

A SURVEY of the large number of reports now available dealing with the Wassermann reaction, shows that the blood serum in the florid, secondary stage of syphilis, in persons who have received no treatment, gives a positive Wassermann reaction in practically 100 per cent. of the cases. The infallibility of the test under these conditions is universally acknowledged and failure to obtain a positive reaction casts deserved suspicion upon the technique of the worker. A similar infallibility of the reaction is generally assumed as existing in respect to cases of untreated tertiary syphilis with active lesions affecting the skin or mucous membranes, although no statistical evidence is available as a basis for this assumption. It is true that by far the greatest number of such cases give a positive reaction, but there are a sufficient number of exceptions to merit our attention.

In recently published reports on the Wassermann reaction which have come to my notice, no special division is made of the untreated cases of tertiary lues with active skin lesions. Ritz and Sachs (*Deutsch. medicin. Wchnschr.*, Oct. 24, 1912) of Ehrlich's laboratory at Frankfurt, report 179 cases of tertiary syphilis with 63.7 per cent. positive reactions, but expressly note that by far the greater number of these cases were under treatment and that in a large number the authors were uninformed as to whether or not lesions were present at the time the blood was taken. The report is therefore not available for our purpose, although it may serve to show that even in carefully studied series this phase of the question is not receiving attention. A tabulation of 3,000 cases in an exhaustive article by Marcus (*Arch. f. Dermat. u. Syph.*, cvii, p. 17) on mercurial treatment and the Wassermann reaction, lists 46 cases of untreated tertiary lues with 100 per cent. positive reactions, without further comment as to whether the skin, mucous membranes, osseous tissue, or internal organs were affected. An article by Reyn. of Copenhagen (*Arch. f. Dermat. u. Syph.*, cxiii, p. 843), is the only one I have found which concerns itself with the subject of untreated tertiary

\* Read before the Chicago Dermatological Society, Jan. 21, 1913.

syphilis of the skin. He calls attention to Boas' statistics of 26 cases with 100 per cent. positive reactions and cites three cases of his own in which the reaction was negative. In two the reaction later changed to positive, but in the third case—a serpiginous syphilide of the neck—the reaction remained negative. Reyn believes that the extent of the cutaneous lesions and their duration may have an influence on the reaction, as all of Boas' patients were affected with severe and extensive lesions of long duration. Reyn also claims that negative reactions are not infrequent when the cutaneous lesions are small and not extensive. In the Finsen Institute, among 10 untreated patients with tertiary lesions, he found the three negative reactions cited above.

In the practice of my associate, Dr. C. A. Baer and myself, we have, in two cases, observed a negative reaction in untreated tertiary syphilis with active cutaneous lesions, among a total of 7 such cases examined serologically.

#### CASE REPORTS.

CASE 1. Infection occurred 23 years ago, at the age of eighteen. The patient was treated for one month with mercurial inunctions, when the generalized eruption disappeared; no treatment since. For several years the patient has had an increasing leukoplakia of the tongue, hard palate and buccal mucous membrane. There was an ulcero-tubercular syphiloderm on the cutaneous surface of the upper lip of six weeks' duration. The nervous system was apparently normal. The Wassermann reaction was negative. Under bichloride of mercury and potassium iodide the lip completely healed in 18 days.

CASE 2. Infection occurred 10 years ago, and treatment with inunctions and potassium iodide was given for several months. There was a rupial syphilide on the forearm of 4 weeks' duration. The Wassermann reaction was negative. Two months later, while under active treatment, the Wassermann reaction became strongly positive.

It was considered of interest in this connection to also review our cases of untreated syphilis with tertiary lesions limited to the mucous membranes, not including those with leukoplakia. The entire number examined serologically was 20, of which 3 were negative.

CASE 1. The patient was a woman, twenty-eight years of age. There was no history of infection; she had never been pregnant. Five weeks ago a complete perforation of the soft palate occurred. There was, also, ulceration of the pharynx. On either side of the neck a single inflammatory lesion could be seen. She has had no treatment. The Wassermann reaction was negative. Under inunctions and potassium iodide the ulcers of the pharynx entirely healed and the perforation reduced fully three-fourths in 2 months. There was a gain in weight of 12 pounds.

CASE 2. The patient was a woman, thirty-two years of age. There was no history of infection. There was an ulcerative syphilitic pharyngitis of 6 weeks' duration, which was recognized as such by a competent laryngologist. The Wasser-

mann reaction was negative. Under mixed treatment recovery was complete within 3 weeks.

CASE 3. A clerk, twenty-four years of age. There was no history of infection. There was an ulcerative syphilitic pharyngitis of 3 months' duration. The Wassermann reaction was negative.

It thus appears that cases with lesions limited to the skin and those with affections of the mucous membranes, alike fail to give uniformly positive reactions. The number of cases comprised in this review is obviously too small to allow of definite conclusions, but can be used in support of Reyn to show the fallacy of the assumption that untreated manifest tertiary syphilis of the skin, as also of the mucous membranes, and florid secondary syphilis, alike give practically 100 per cent. of positive reactions. This inconstancy of the test should not cause a loss of faith in its value; it emphasizes, however, the continual need of clinical control of the results.

A positive reaction is a symptom of syphilis and as such is to be given due recognition, but the result of every Wassermann test must be intelligently interpreted in relation to all other symptoms. The knowledge that his patient with cutaneous or other lesions has a positive Wassermann reaction does not by any means entitle the physician to regard these lesions as syphilitic. Neither does the negative outcome of the reaction necessarily prove that the lesions are not those of syphilis. The test alone does not establish the diagnosis and the results of clinical experience and observation are not to be subordinated to the positive or negative outcome of the reaction in a given case. Opportunity is present as of old for the demonstration of diagnostic acumen and clinical ability.

The advent of the Wassermann reaction has not been entirely an unmingled blessing. It has led many into error and will continue to do so when it remains uncontrolled by good clinical judgment. Evidence as to the truth of this statement has probably come to the notice of every dermatologist.

The possibility of error also lies in a direction other than the clinical adaptation of the test. Faulty technique, insufficiently controlled reagents and the like, produce worthless results. The accuracy and skill of those engaged in serological work must be above all question if their results are to be considered reliable. That entire confidence cannot be indiscriminately placed in the results of every worker and especially not in the results given out by some of the commercial so-called Wassermann laboratories, is a conclusion arrived at by experience. My associate, Dr. Baer, and I have in several instances reversed the results obtained elsewhere, notably by the so-

called laboratories, and we are informed that such has not infrequently also been the experience of others. Here then is a fundamental source of error which discredits the reaction in the opinion of the trustful practitioner, whereas the discredit rests entirely upon the laboratory worker.

In spite of its occasional failure to give a positive result in the presence of active lesions, the Wassermann reaction, when properly performed and when its results are interpreted with good clinical judgment, is a most valuable diagnostic aid, and as such deserves our entire confidence.

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### SUDDEN SWELLING OF THE PAROTID GLAND FOLLOWING SHORTLY AFTER X-RAY TREATMENT: ITS PROBABLE CAUSE AND MEANS OF PREVENTION.

By GEORGE E. PFAHLER, M.D., Philadelphia.

MY attention was called to this condition a few weeks ago in conversation with Dr. MacKee, who had observed several such occurrences. Up to that time it had never occurred in my practice.

On February 13, 1913, I treated a robust young man of eighteen, for acne, using a Piffard tube, with one milliamperc of current, a vacuum of six Benoist, at a distance of one-half inch. His lesions were chiefly in front of and below the ears. The time of exposure was two minutes for each area. Two hours after this treatment his parotid glands became so much swollen that he says he would have concluded he had the mumps if he had not been sure of having had them previously. This occurred on both sides. The swelling gradually disappeared at the end of twenty-four hours, with no after effect. When seen a week later, nothing abnormal could be detected. I then treated the left side as I had done previously. On the right side I surrounded the area treated with lead foil, which I grounded, otherwise giving him the same treatment as during the previous week. About two hours after the treatment his left parotid gland began to swell and, during the evening hours, was seen by the physician of the college which he was attending and who was almost persuaded to compel him to go to the infirmary under the diagnosis of mumps. The right parotid gland, which had been surrounded by

grounded lead foil, showed no change. The left side showed a disappearance of the swelling at the end of about twenty-four hours. When seen two weeks after the last treatment, and three weeks after the first, he had a dermatitis over the areas treated.

Based upon these observations and confirming my original theory as expressed to Dr. MacKee, I believe that this effect is due in some way to the electro-static discharge which develops in the neighborhood of the excited X-ray tube, when close to the tissues. On the right side, in the above case, in which these electro-static charges were carried off by a ground wire, the parotid gland did not become swollen, though it had become swollen a week previously under the same technique, without the ground.

A single observation of this kind, of course, does not make a law and it is only given as a theory and if this technique is repeated by several others, we may be able to come to a positive conclusion. It is likely that other *primary* reactions, which occur immediately after an X-ray treatment, are also due to this electro-static discharge, and if so, they can be prevented by the simple means of surrounding the area by metal which is grounded. In doing this, I would like to caution operators to keep the terminals of their tube at a sufficient distance from the patient, otherwise the current will seek the shorter course through the body of the patient to this grounded wire and thus give the patient a severe shock.

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## CLINICAL REPORTS.

### LICHEN PLANUS, WITH EXTENSIVE INVOLVEMENT OF THE MUCOUS MEMBRANE OF THE MOUTH.\*

By C. J. BROEMAN, M.D., Cincinnati.

**M**Y reason for showing this case is because it is a typical text-book example conforming with the description of the disease as to history, subjective symptoms, location, size and color of the lesions and because of the extensive early involvement of the mucous membrane of the mouth, which is of diagnostic importance.

#### CASE REPORT.

Mrs. R., 60 years of age, was referred to me by Dr. Krieger, of Madisonville, on June 22, 1912, for diagnosis and treatment. The patient was

\* The patient was presented before the Cincinnati Academy of Medicine, February 10, 1913.

quite nervous and the eruption on her body had been present for three months, developing first on the lower limbs and wrists.

An examination showed the extensor surfaces of the lower limbs and the flexor surfaces of the arms and wrists to be covered with a papular eruption which in places formed sealy patches. The eruption was also present under the knees and scattered to a slight extent over the trunk. The eruption consisted of some pinhead to pea-sized, flattened, umbilicated, glistening papules of a violet color and a greater number of large, raised, hypertrophied papules that had coalesced to form large sealy patches. These patches formed long streaks and band-like lesions on the arms and wrists. The few scratch marks present showed that there was some itching accompanying the disease, although this was not severe.

The involvement of the mucous membrane occurred at the beginning of the disease and was the only symptom that worried the patient as she was afraid it was or might turn into cancer. The pain and burning in the mouth, while usually not noticeable, was well marked and at times quite severe. Examination showed the lesions to be present on the mucous membrane of the tongue, both on its ventral and dorsal surfaces as well as on the edges and tip. The buccal membrane opposite the teeth and the mucous membrane on the lips were also involved. The eruption consisted of small papules and plaques and branching streaks of a grayish-white color, having the appearance of mucous membrane that had been treated with silver nitrate. The papules and plaques, especially the former, were raised above the surface.

I believe lichen planus to be on the increase, as it certainly has been quite common in this vicinity this winter.

The ever increasing strain placed on the nervous system by the strenuous methods of both business and social affairs of to-day would explain this increase, since mental overwork and worry are ætiological factors in this disease.

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## REPORT OF A CASE OF SYPHILIS OF THE SPINAL CORD CURED WITH SALVARSAN.

By A. G. BEYER, M.D., Milwaukee.

The patient, Mrs. J. B., was forty-six years of age.

**PREVIOUS HISTORY.** Seven years ago there was a perforating ulcer of the soft palate. She received internal anti-syphilitic treatment, which was efficacious only after the soft palate had been entirely destroyed.

The patient first came under my observation on Dec. 19, 1911. At that time she had a complete paralysis of the lower limbs. The left pupil was larger than that of the right side. She complained of shooting, lancinating pains in the legs and a fairly well-defined girdle pain in the back. The left patellar reflex was entirely absent, while that of the right side was very much decreased. The com-



plete paralysis of the lower limbs was preceded by gradual loss of coördination of the muscles. About the time she first came under my observation the patient was unable to voluntarily empty the bladder, so that catheterization was necessary. She also had poor control over the bowels.

On Dec. 19, 1911, the patient was admitted to the Trinity Hospital. One thousand cubic centimetres of urine were removed by catheterization. A physical examination of the internal organs showed them to be apparently normal with the exception of a sharply retroflexed, slightly enlarged and very hard uterus.

The patient was given one grain of the bichloride of mercury and thirty grains of potassium iodide three times a day. Every second day five grains of sodium cacodylate was administered hypodermatically in the gluteal region. This treatment was continued for four weeks without any amelioration of the symptoms.

On Jan. 15, 1912, an injection of 0.6 gm. of salvarsan was administered intramuscularly. The patient remained in bed until January 20, when she was able to arise from the bed and to take a few steps unassisted with the exception of the support obtained by resting the hand on the bedstead.

On February 4 a second intramuscular injection of 0.6 gm. of salvarsan was administered. The ingestion of mercury and iodide was continued until Sept. 10, 1912, when the third intramuscular injection of 0.6 gm. of salvarsan was administered.

There was a steady improvement in all her symptoms from the day of the first injection of salvarsan. The first symptoms to improve were those of the bladder and rectum, and then the control of the legs gradually returned. The pupils became equal. The woman was able to work all summer on her farm and there has been no recurrence of the ataxic symptoms, and her general health is excellent. She is still receiving mercury and iodide by ingestion.

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## DERMATOLOGICAL THERAPEUTICS.

By

CHARLES WOOD McMURTRY, M.D.,

Instructor in Dermatology, Columbia University.

### SULPHUR.

*(Continued from page 328.)*

**PARASITICIDE.** If the action of sulphur as a keratoplastic and as a keratolytic appears somewhat difficult to understand, its action as a cutaneous parasiticide is readily comprehensible. When properly applied, sulphur develops sulphuretted hydrogen, and this gas in the proportion of even 1% may be fatal to man, while an animal dies almost immediately in an atmosphere of the pure gas (Wittlaus, Manual of Chemistry, 4th ed., p. 94). The effect of the sulphur upon the acarid parasite of scabies and similar insects as well as upon various bacteria can be readily imagined.

**USE OF SULPHUR IN SCABIES.** The male parasite of this malady is easily disposed of, but as the female burrows beneath the horny layer,

the majority of ointments for scabies contain solvents of this stratum, such as black or green soap and an alkali such as potassium carbonate as adjuvants to the sulphur. In addition, the skin is rendered more receptive to the sulphur by giving the patient a warm bath, during which he is thoroughly scrubbed.

Wilkinson's ointment contains:

℞ Sulphuris sublimati,	
Ol. rusci .....	āā. 15 parts
Cretæ lævigatæ .....	10 "
Saponis kalini venalis,	
Adipis suilli .....	āā. 30 "
M.	

The widely used ointment of Helmerich consists of:

℞ Sulphuris depurati .....	20.0
Potassii carbonici .....	10.0
Adipis suilli .....	ad. 100.0
M.	

Leibreich (see above) describes the composition of the compound sulphur ointment (unguentum sulfuratum compositum) as follows:

℞ Sulphuris depurati .....	30.0
Amononii hydrochl.,	
Aluminis .....	āā. 2.5
Adipis suilli .....	ad. 100.0
M.	

Liebreich combines Peru balsam with sulphur for scabies. His prescription is:

℞ Sulphuris depurati,	
Balsami Peruviani .....	āā. 1 part
Lanolini .....	8 parts
M.	

Stelwagon (Diseases of the Skin, 5th ed., p. 1102) recommends for children and those of delicate skin:

℞ Sulphur. sublimat.,	
Bals. Peruv. ....	āā. 8-24.0
Adipis benzoinat.,	
Petrolati .....	128.0
M.	

while for the average dispensary case, this same combination of full strength may be employed:

℞ Sulphur. sublimat. ....	16-24.0
Bals. Peruv. ....	16.0
Naphtol. $\beta$ ....	4-8.0
Adipis benzoinat.,	
Petrolat. ....	āā. q. s. ad. 128.0

The sulphur ointment of the U. S. P. (U. S. Dispensatory, 19th ed., p. 1380), or unguentum sulfuratum simplex, is made of 15 parts of washed sulphur to 85 of benzoinated lard. E. Riecke (Zur therapeutischen Verwendung des Schwefels, *Deutsch. med. Wochenschr.*, 1908, No. 50), noting that the curative action of sulphur increases with its degree of fineness as a powder, found that sulphur produced from calcium polysulphide, when mixed in a still moist condition with the ointment base, to be much better than the usual commercial article.

Sherwell (*Med. Journ.*, New York, Oct. 19, 1889) calls attention to the fact that most individuals with scabies, when cured of this malady by sulphur ointments, almost invariably show a pronounced dermatitis. With a view of avoiding this complication, he prescribes simple washed sulphur (sulphur lotum) and instructs the patient to rub this powder into the skin at night, see that other members of the family are treated in a similar manner, change the bed sheets, use fresh underwear and scatter a teaspoonful of the sulphur over the under sheet of each bed. The old underwear and bedclothing must, as in all other forms of treatment, be sterilized by heat. This procedure is repeated until all symptoms disappear and for a day or two after. A cure usually results in from nine to ten days. While this method requires more time than that involving the use of baths and ointments, it is inexpensive, easily applied, cleanly in application and certain in curative power. Furthermore, it leaves the patient, when cured, with a healthy skin, as dermatitis does not occur.

Sulphur may be used as a parasiticide or disinfectant for fleas, bed bugs and even body lice, and as such will prove of value to veterinary surgeons, travellers, physicians who practise among the poor and all who are exposed to the attacks of these insects. I prescribe it as follows:

℞ Sulphur. præcip.,	
Camphor. pulv. ....	āā. 40.0
Talc. pulv. ....	20.0
M. Sec. art. Sig: Ext. Flea powder.	

The powder may be dusted on the body or simply dropped beneath the shirt collar, so as to fall upon the back and front of the trunk. A handful of the powder when scattered upon the undersheet of an infested bed, will, when rendered active by the body warmth, insure the guest a peaceful night's rest.

CUTANEOUS STIMULANT. The rather complicated effect of sulphur

upon *acne vulgaris* and allied conditions can best be explained under this heading, although a certain keratolytic action also occurs, as well as a peculiarly favorable influence upon the sebaceous glands. Furthermore, the parasitocidal effect of the  $H_2S$  which develops on the skin must tend to free the latter of the myriads of microbacilli, staphylococci and other bacteria which are always present. The curative action of sulphur upon seborrhœa, pityriasis simplex and *steatoides* and dermatitis seborrhœica is probably of a similar character. In rosacea, the stimulating, alterative effects of sulphur seem to predominate.

As the space at my disposal will not allow me to describe in detail the use of this drug in each affection enumerated under the heading of indications, I shall mention briefly some forms of using sulphur externally.

**POWDERS.** In addition to those already mentioned, powders containing sulphur in proportion of 5% or more may be used for hyperidrosis and chronic eczema of the feet, and upon the moist but not denuded surfaces of certain chronic dermatoses, and as a stimulant to sluggish indurated ulcers. C. H. Clark (*Med. Rec.*, Nov. 9, 1901, p. 750) treats carbuncles by a crucial incision under local anæsthesia and packing with gauze containing precipitated sulphur. The latter is allowed to remain for 6 to 8 hours and then removed and replaced by a simple, superficial, antiseptic dressing. He reports excellent, rapid results which he attributes to the antiseptic action of the sulphur.

**SULPHUR LOTIONS.** A sulphur lotion constitutes a clean and convenient form of applying the drug, and the therapeutic action, while much less energetic than that of the ointments, pastes and plasters, is sufficient in a large number of cases. The best known of these lotions is the so-called *lotio alba* or white wash for comedones and *acne*, which consists of:

R Zinci sulphat.,	
Potassii sulphuret .....	12.0
Aquæ dest. ....	200.0

The zinc sulphate must be dissolved in one half the amount of water and the sulphuretted potash in the other half, and the two solutions combined while being thoroughly agitated. The mixture must be well shaken before use. Owing to the frequent occurrence of conjunctivitis in patients who apply this mixture to the face before going to bed, I usually add from 3% to 5% of glycerin to the above ingredients. The glycerin keeps the surface medication from drying into powder and then irritating the conjunctiva. The addition of 1% to 2% of tragacanth may be tried but renders the lotion somewhat less active. White wash is suitable for light cases of facial seborrhœa, comedones and *acne*, particularly of women.

In Germany the Kummerfeld lotion is much used for comedones. It consists of:

R Sulphuris præcipitate .....	12.0
Camphoræ .....	1.0
Gummi arabici .....	2.0
Aquæ calcis,	
Aquæ rosæ .....	ââ. 150.0

A very simple, inexpensive but active lotion consists of precipitated sulphur and glycerin ââ., 10.0 and water, 150.0; to the latter is added sufficient starch to hold the sulphur in partial suspension.

LOTIONS FOR THE PRODUCTION OF NASCENT SULPHURETTED HYDROGEN. In these the sulphur is usually in the form of a sulphate of sodium or potassium in saturated aqueous solution. This lotion is applied to the affected areas, allowed to dry, and then made active by a spray of vinegar from an atomizer (Vörner. *Die Sulphurierung. München. med. Wchschr.*, 1912, Aug. 27, p. 1909) or by the application of a 5% watery solution of acetic acid on cotton. This results in the production of fresh sulphur and  $H_2S$ , and is used for the treatment of acne, rosacea and seborrhœa.

SULPHUR OINTMENTS FOR THE TREATMENT OF CONDITIONS OTHER THAN SCABIES. Such ointments are usually of a stimulant character and frequently contain one or more keratolytics. The objective action is the sterilization of the skin surface, the dissolution and removal of the old stratum corneum, regulation of the sebaceous secretion, formation of a normal horny layer and the absorption of infiltrations together with the restitution of a normal size, tone and activity to the blood vessels and lymphatic spaces. For acne, Prof. Alfred Fournier uses:

R Sulphur. præcip. ....	24.0
Vaselini ad. ....	100.0
Ol. rosæ gt. v,	

and directs that it be applied at night and removed in the morning. For pityriasis simplex capitis, Dr. George T. Jackson's well-known and widely used sulphur cream enjoys well-deserved popularity (*Therapeutic Notes on Sulphur Cream*, Dr. George T. Jackson, *Jour. Cut. Dis.*, June, 1901, xix, p. 257). It consists of:

R White wax .....	5ijss.
Petroleum oil .....	5ijss.
Rose water .....	5j.
Biborate of soda .....	gr xv.
Precipitated sulphur .....	5ijss.

When mixed, the result is a smooth, white cream without odor, which keeps perfectly and does not make the hair greasy. It should be rubbed into the scalp once or twice a week for dandruff. Liebreich (see above) gives the following formula for his ointment for eczema capitis:

R Sulphuris præcipitati . . . . .	2.5-5.0
Resorcini . . . . .	2.0
Acidi salicylici . . . . .	1.0-2.0
Lanolini . . . . .	5.0
Adipis benzoati . . . . .ad.	50.0
M.	

As a type of the compound sulphur ointments for acne, rosacea, and chronic seborrhœic dermatitis of the face and scalp, the following prescription, which is one of my own, will serve as an example:

R Sulphuris præcip.,	
Resorcini,	
Camphor. pulv. . . . .	ââ. 10.0
Acid. salicylici . . . . .	5.0
Lanolini,	
Vasellini . . . . .	ââ. ad. 100.0
M.	

Sig: Apply night and morning with massage after washing the face with green soap and hot water (if for acne or rosacea). I use this ointment in obstinate, recurrent or severe pustular acnes and in all my cases of rosacea, with uniformly excellent results. Exfoliation occurs after 6 to 8 days' use and leaves a clean, healthy, but slightly reddened surface, which soon assumes a normal color.

SULPHUR PASTES. These usually represent very strong concentrations of the drug for use on a comparatively small area and where an intense action is desired. Alkalies such as potassium carbonate are frequently added as adjuvants, and for the same reason either green or black soap is used as a base. The acne paste of von Hebra consists of:

R Sulphuris præcip.,	
Kali carbonici,	
Glycerini,	
Aq. amygd. amar.,	
Spiritus diluti . . . . .	ââ. 10.0
M. f. pasta.	
Sig: Ext. Apply at night and remove each morning.	

The acne pastes of Joseph and von Zeissl are similarly constituted, but with some modification of the dosage.

For pigmented areas, chloasmata, etc., Ledermann (*Therapeutisches Vademecum*, p. 73) recommends Neumann's paste:

R Sulphuris præcip. . . . .	20.0
Acid. acet. q. s. f. past. moll.	
Sig: Sulphur paste.	

**SULPHUR SOAPS.** When used in the ordinary manner for toilet purposes, sulphur soaps are practically without action on the skin. But if a thick lather be made from a soap containing 5 to 10% of precipitated sulphur, and this lather then rubbed thoroughly into the affected part and allowed to dry and remain for from 10 to 24 hours, an efficient action of the sulphur results. Sulphur soaps may be used in this way for seborrhœa, comedones, acne and seborrhœic dermatitis. Soaps are made which, in addition to the sulphur, contain resorcin and salicylic acid (for acne) or tar (for pityriasis) and betanaphthol (for prurigo).

**SULPHUR OINTMENT PENCILS.** These are used for the application of strong concentrations of sulphur to small, sharply circumscribed areas in cases where it is particularly desirable to avoid an extension of the action of the drug to the adjacent normal skin. The sulphur ointment pencil consists of a base of lanolin and white wax of the required consistence and containing from 20 to 50% precipitated sulphur. The mass is rolled into sticks and each covered by tin foil. Such sulphur pencils are useful for the treatment of small, obstinate and isolated patches of seborrhœic dermatitis.

**INDICATIONS.** Sulphur is indicated in

- Scabies.
- Acne (all forms).
- Comedones.
- Rosacea.
- Seborrhœa.
- Pityriasis simplex.
- Pityriasis steatoides.
- Dermatitis seborrhœica.
- Ichthyosis (Ledermann) (Paschkis).
- Hyperidrosis (Crocker).
- Pigmentations (Paschkis).
- Lupus erythematosus (Stelwagon).

Finally, sulphur is one of the best stimulants to the cutaneous blood vessels at our disposal, and hence may be used in all conditions of vascular torpidity and to promote the absorption of old masses of dermal infiltration.

**ADJUVANTS.** All substances which macerate the skin increase the action of sulphur-alkalies, soaps and such keratolytics as resorcin and salicylic acid. The last two are particularly suitable for acne and rosacea.

**DOSAGE.** For ointments 10% or more of sulphur is used in the treatment of scabies. This dose may be diminished one-half for the use of people with sensitive skin. The same proportion is used in ointments for dandruff, pityriasis steatoides and extensive seborrhœal dermatitis, acne, rosacea and chronic eczema with much infiltration. But in the last three conditions, one need not hesitate to raise the dose to 15, 20, and even 25% or more if the necessary reaction does not occur. This also applies to the use of sulphur in the passive stage of lupus erythematosus.

The dosage for the lotions, pastes and varnishes is approximately the same as for the ointments, and this also applies to plasters. Powders and paste pencils usually contain 30 to 50% of sulphur.

**CONTRAINDICATIONS.** As stated above, a certain number of persons react violently to applications of sulphur, so that its use under such circumstances is contraindicated. The drug should not be used in treating individuals in whom eczema is a usual cutaneous reaction. As a rule, the drug should not be applied to surfaces denuded of epidermis. Sulphur is absolutely contraindicated in all acute inflammations of the skin, as it is a cutaneous stimulant and irritant. It should never be used on the face or scalp of patients who suffer from chronic conjunctivitis or iritis. Finally, sulphur must not be used on the skin simultaneously with other applications which contain its incompatibles.

**IDIOSYNCRASY.** Idiosyncrasy to sulphur is common and manifests itself by a violent cutaneous reaction, with redness, swelling, even vesiculation and much itching or a burning sensation, to moderate or even small proportions of sulphur externally applied. This condition is easily recognized, and its appearance should lead to the immediate discontinuance of the drug and the substitution of another. Many patients with scabies who cannot tolerate sulphur are easily cured by the use of an ointment containing 15 to 25% of Peru balsam.

**SULPHUR DERMATITIS.** This is due to one or more of three causes: idiosyncrasy to the drug on the part of the patient, to the stimulant and irritating effect of the remedy itself, and to the irritant, macerating action of the alkalies, soaps and keratolytics used as adjuvants. Excessive friction in the rubbing in of an ointment for scabies may also contribute to the production of an inflammatory condition.

Practically all patients who undergo the routine treatment for scabies show a certain amount of cutaneous irritation, and this should be allayed by applications of boric acid or zinc oxide ointments or by a soothing lotion such as 1 to 2% acetate of aluminium, calamine and zinc oxide wash, or that with lead and opium if the inflamed area is small.

Sulphur dermatitis is easily cured if taken in hand at the start, but if the cause continues to act, a severe eczematous condition will result and prove difficult to cure.

**SULPHUR CONJUNCTIVITIS.** This is very common, particularly when sulphur is applied to the face and scalp, and consists usually of a simple hyperæmia of the conjunctiva, which will, as a rule, quickly disappear when the cause is removed and cotton pads soaked in a saturated solution of boric acid are applied and frequently renewed. In all instances where sulphur is used on the head or face the patient should be distinctly warned to keep the ointment or lotion away from the eyes and to wash the hands after applying the remedy. The addition of 5% glycerin or 1% tragacanth to the lotio alba and other sulphur lotions for the face is advisable.

**TOXICOLOGY.** When ingested in large doses, sulphur may cause serious systemic poisoning. H. C. Wood (*Therapeutics*, 11th ed., p. 643)



believes this to be due to the generation of  $H_2S$ . Potter (*Therapeutics*, 12th ed., p. 477) states that large doses of sulphur, given for any length of time, may impair the blood, causing anæmia with emaciation, tremor and great debility. According to Cushny (*Therapeutics*, 2d ed., p. 559), large quantities of sulphur given by mouth have caused severe general symptoms with bloody evacuations.

When used externally, sulphur may produce grave general systemic conditions. E. Hesse (*Dermat. Ztschr.*, 1907, xiv, p. 111) reports the case of a child of 2 months with vesicular eczema of the head and both arms, who received a dressing of sulphur præcipitate, 10% in vaseline. On the evening of the following day the child looked badly, had a temperature of  $40^{\circ} C.$ , and diarrhœa. Upon removal of the ointment the condition improved, and recovery was complete in three days. Two further applications produced similar symptoms, but milder in character. There were no symptoms after an application of the same ointment minus the sulphur, no local inflammation occurred, and the eczema was finally cured. Other children treated with the same ointment showed no symptoms. Hesse regards this case as proving the absorption of sulphur by the skin.

Another case of poisoning from the external use of sulphur is reported by J. Burmeister (Ein Fall von  $H_2S$  Vergiftung nach æusserlicher Anwendung von Pottasche Schwefelsalbe. *Arch. f. Dermat.*, 1901, lviii, p. 389). The patient, a man of 19 years, received a scrub bath and an inunction of the body with

R Potass. carbon. ....	10.0
Sulphur. præcip. ....	40.0
Adipis suilli,	
Ol. rapæ. ....	50.0

on the evening of his entrance into the hospital. The treatment was repeated 36 hours later in the morning, and again 4 to 5 hours after the second inunction. One hour after the last application the patient became unconscious, the pupils were dilated, the pulse feeble, rapid and irregular and the breathing irregular and sighing. Yellow, loose evacuations were found in the bedclothes. The patient received 2.0 gm. of camphorated oil subcutaneously and was then placed in a warm bath, where the sulphur salve was washed off thoroughly. Further stimulation and the use of bed warmers caused the patient to improve and consciousness returned. The patient complained of headache and thirst, and twice vomited the coffee given him. He finally made a quick and complete recovery. The past history of the patient was good and his physical condition found to be excellent. The stools could not be examined. When tested, the ointment proved to be properly prepared and gave no reaction for arsenic. The lack of a spectrum in the blood showed that the potassium carbonate was not responsible. Burmeister concludes that this case should show the

need of caution in the use of strong sulphur ointments over large areas of skin.

NOTE.—The next installment of *Dermatological Therapeutics* will appear in the July issue of *THE JOURNAL* and will deal with "The Use of Sulphur in the Treatment of Syphilis."—Ed.

## CORRESPONDENCE.

### NOMENCLATURE.

*To the Editor:*

As a subscriber to *THE JOURNAL*, I have taken advantage of your invitation for suggestions as to simplifying the nomenclature in dermatology.

It seems to me that in order to apply a remedy it is most rational to ascertain the cause (if possible) and act accordingly. If we analyze the causes for our complicated nomenclature we will notice that most of the common, every-day skin lesions have the same or practically the same name in every country.

But it is different with the rarer or more unusual dermatoses. Here we are apt to find three to six or more different names applied to the same condition. Why is this? It is because dermatology as a distinct branch of medicine is rather recent; and when a certain investigator comes across a certain skin condition which he does not find described in any book he gives it some name which more or less describes the clinical appearance of the lesion. (With the French writers it is rather more than less.) Now clinical appearances of the same lesion vary in different individuals and in the same individual at different times. So that should several observers see the same condition in different people, each one is apt to give a different interpretation. Particularly would this happen when the investigators live in widely separated parts of the globe and without means of frequent communication and comparison. Hence the large number of different names which have arisen for one and the same skin condition.

I do not believe that a name should depend upon pathological or microscopic findings, for there are many skin lesions clinically distinct and yet under the microscope show practically identical pictures.

Nor is a nomenclature based upon aetiology entirely feasible, for unfortunately there are many, many dermatoses, the aetiology of which is not known.

I do not believe that a name without a meaning is the best, I believe that a name should be as short as possible and yet somewhat indicative of the general condition and thus help us to get a sort of mental picture when we use the particular term.

C. J. White, in his address before the Dermatological Section of the American Medical Association at Atlantic City in June, 1912, proposed some valuable suggestions whereby the name and description of skin lesions could be simplified.

It seems to me that it ought to be the moral duty of all investigators, and particularly writers of books on dermatology, irrespective of nationality, to get together and adopt some form of nomenclature acceptable to all or a majority, and we should all of us be bound to use those names only which have been agreed upon at a conference of this kind. Should any hitherto unknown or undescribed dermatosis arise, the same procedure should be taken and no name given to the condition until the case has been presented at a conference and the name agreed upon. In this way, I believe, we will come to a more simplified and rational nomenclature in dermatology.

C. J. HALLERIN, M.D.

181 Hunterdon Street, Newark, N. J.

Feb. 13, 1913.

## SOCIETY TRANSACTIONS.

## NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, Dec. 17, 1912.

JEROME KINGSBURY, M.D., *Chairman.*

## VASCULAR NÆVUS. Presented by DR. JACKSON.

The patient was a woman who was shown to the Society last spring, with a very extensive vascular nævus, involving a large part of the left side of the body. It was presented now to show the result of treatment by high frequency cauterization. The outer third of the face had been gone over three times. The part worked on was pink in color, in great contrast to the blue of the rest of the nævus.

The operation was painful; it was followed by crusting; when the crusts fell the skin was much lighter in color. Thus far no scars had resulted. Dr. Jackson found this method of cauterization of great benefit in the treatment of lupus vulgaris. The spark seemed to go down to the bottom of the tubercles and to destroy them.

DR. SHERWELL said that the result was apparently very good, but that it would require time to show the ultimate result. He had at one time read a paper before the American Dermatological Association, recommending treatment of cases with multiple puncture made by a group of grooved needles, thereby introducing carbolic acid and occluding the capillaries. He obtained very good results in relatively small areas, and used the method for a long time, but had abandoned its use in the more extensive cases. He had published his method and results obtained on a good many cases. (See *Tr. Am. Dermat. Assn.*, 1877.)

DR. ROBINSON said that the result looked very encouraging, and he was glad to have seen it. He hoped that Dr. Jackson would show the case later on in good shape.

DR. FORDYCE said that the case undoubtedly showed improvement, but he doubted very much if greater benefit could be secured than was already obtained.

## CASE FOR DIAGNOSIS (Maculo-papular Eruption). Presented by DR. KINGSBURY.

The young man had had the disease for six years, and during that time had never been free from the eruption. It appeared first on the arm, then on the legs, and then on the abdomen.

DR. JOHNSTON thought that it belonged to the group of necrotic granulomas. There were many different varieties in the group, and this was probably one of the slighter processes, more exudative and less inclined to necrosis.

DR. TRIMBLE expressed the opinion that it was a primitive tuberculide. He had seen the case once before, and had the same opinion. The lesions were nearly all macular, although a few were slightly infiltrated. He would class it as a very mild or immature tuberculide.

DR. ROBINSON said that he had not yet finished the examination of the three pieces submitted by Dr. Kingsbury, but hoped to report on the case at the next meeting.

CASE FOR DIAGNOSIS. Presented by DR. SHERWELL.

Mrs. L. W., aged thirty-nine, was born in this country. There was a good history as to general health. About eight years since, she first noticed a localized swelling and hardening appearing nearly simultaneously around the eyes, on the face and on the hands; first, she thought, around the eyes. At the same time, there was very great œdema of a firm kind on both feet and lower part of the lower limbs. The œdema in these locations gradually disappeared. Examination showed the urine to be practically normal in character. The localized conditions on the upper part of the body seemed to be pretty much unchanged. There was a yellowish tinge of the infiltrated lids, etc., which would resemble, if confined to those parts, xanthomata, but the induration on the right cheek more nearly resembled scleroderma or a lymphangiomatous lesion.

DR. FORDYCE expressed the opinion that it was probably a xanthoma. He knew of no other condition that would produce the sharply defined lesions with such stony hardness.

DR. TRIMBLE said that the lesions about the eyes seemed to be xanthoma, but that he did not feel so sure about the others. He asked whether any one had ever seen xanthomatous lesions like these hard tumefactions on the face of this patient.

DR. DADE said that he thought the eye lesions were xanthoma.

DR. JOHNSTON said that he could reply in the affirmative to Dr. Trimble's question, and then told of a case in which a man had had xanthomatous tumors on the palmar surface of every digit, on the elbows, and on the buttocks. Underneath the skin in various places were plaques of dense infiltration over which the skin was movable and showed no xanthomatous color at all; the man said that several of the xanthoma tumors had begun in that way. The development of the condition in this case, however, had been too slow for him to follow it. In another case, with large tumors on the elbows and feet, the same plates were felt, but neither could this case be followed long enough to see if these tumors reached the surface and showed the characteristic color.

DR. SHERWELL said that he had first seen the case by candle light, and had diagnosed it as xanthomatous as to the condition of the lids, though the lesions on the face later led him to doubt that diagnosis. He had seen other cases with such lesions as Dr. Johnston and Dr. Robinson had spoken of, notably as shown in xanthoma diabeticorum. The generalized œdema over the lower part of the body, which had existed for some time, had not been explained, and it seemed possible that there might be a deranged lymphatic element entering into the condition, as of scleroderma. The condition seemed benign, to all intents and purposes, as it had existed already for eight years. The patient was an active business woman, but this condition interfered with her working.

SARCOMA CUTIS, SHOWING THE RESULT OF TREATMENT.

Presented by DR. TRIMBLE.

The patient, a woman aged fifty-eight, had been shown on two previous occasions to the Society. When she first presented herself for

treatment, the lesion had existed for ten months, and was located on the extensor side of the arm, opposite the elbow joint. Clinically it greatly resembled an epithelioma. It had a characteristic rolled border, and at one edge there was a typical group of small pearly lesions not as yet ulcerated. There was a sharply defined excavation about two inches in the long diameter, and one and one-half inches wide. The growth had been excised by Dr. Trimble with apparently a good result, but three months after the operation, a recurrence was noted in the form of two small waxy lesions, about an inch from the line of operation. The pathological examination brought forth many different opinions as to the character of the growth, too numerous to mention in this history. From a second piece of tissue, however, it was definitely decided that the case was a sarcoma. A second operation was performed, the incision going far out into the healthy skin. After healing, the case was subjected to X-ray exposures, twenty of which had been given. Six months had elapsed since the second operation, and as yet there were no signs of recurrence. Photographs before operation and after recurrence, and pathological sections were shown.

DR. SHERWELL said that single lesions of sarcoma could certainly be removed without recurrence on the site, or without generalized sarcoma occurring. He had seen and had operated on such cases more than a score of years ago, the patients being still living and free of the disease.

#### EPITHELIOMA TREATED WITH THE MASSIVE-DOSE X-RAY METHOD. (Six Cases.) Presented by DR. MACKEE.

CASE 1. Mrs. E. S. I. The patient was forty-eight years of age and a native of the United States. She first came under the speaker's observation on Aug. 8, 1912, having been referred by Dr. Harry Waite. At that time she exhibited a rodent ulcer of six years' duration, on the left side of the forehead. The lesion was three inches long and one and one-half inches in width. The ulcer extended down to, but did not involve the periosteum. The margin was not indurated nor were there any nodules. When the lesion first made its appearance it was treated by curettage and cauterization. Recurrence was prompt and was treated in the same manner. When the ulcer recurred the second time it was treated by the fractional-dose X-ray method, in the neighborhood of 150 exposures being given in the course of three years. While at first there was some improvement, the lesion later increased in size in spite of the X-ray applications, so they were discontinued. Her last treatment was in 1899. Since then only mild antiseptics had been applied.

On Aug. 8, 1912, 6 Holzknecht units of a No. 6 Benoist ray were administered. An erythema developed in eight days and lasted for ten days. On Sept. 27, 1912, the lesion was entirely healed.

CASE 2. Mrs. G. D. The patient was of American birth and was sixty-one years of age. She first came under observation on Mar. 13,

1911, at Dr. Fordyce's clinic. There was an ulcerating and nodular epithelioma on the left side of the upper lip, close to, but not involving the mucous surface. The ulcer was one and one-half inches in length and one-half inch in width. The duration was two years. The base of the lesion, which was somewhat depressed, was composed of confluent, pearly nodules, between which were areas of ulceration. The border was rolled, hard and nodular.

On Mar. 13, 1911, 7 Holzknecht units of a Benoist 6 ray was administered. This was followed by a marked erythema which developed on the eighth day and which persisted for two weeks. On Apr. 14, 1911, the lesion was entirely healed. A slight scaliness was noticed for about six months.

Case 3. Mr. D. L. The patient was born in Ireland and was fifty-one years of age. He first came under observation at Dr. Fordyce's clinic on Mar. 16, 1912. He exhibited an epithelioma, the size of a fifty-cent piece, on the right cheek near the nose. The centre was ulcerated and extended into the deep tissues. The margin was elevated, hard and nodular. The duration was five years.

On Mar. 16, 1912, 7 Holzknecht units of a Benoist 6 ray was applied. This was followed by the usual erythema and healing was complete in six weeks. In one part of the scar, however, there was a suggestion of a pearly nodule, which promptly disappeared under the influence of 4 Holzknecht units of a Benoist 6 ray.

Case 4. Mrs. C. G. The patient was born in Russia, and was fifty-four years of age. She first came under observation at Dr. Fordyce's clinic on Mar. 15, 1911. There was an ulcerative and nodular epithelioma on the right side of the upper lip. The mucous membrane was not involved.

On Mar. 15, 1911, 7 Holzknecht units of a Benoist 6 ray was applied. This was followed by a marked erythema, mild exudation and crusting. The lesion had entirely disappeared in six weeks.

Case 5. Mr. T. M. The patient was of Irish birth and was fifty-eight years of age. He first came under observation at Dr. Fordyce's clinic in June, 1906. He presented a split-pea-sized, ulcerative and nodular epithelioma on the left side of the nose. The duration was two years.

The lesion was curetted and cauterized with acid nitrate of mercury. Recurrence was prompt and the recidive was removed with the solid carbon dioxide. The ulcer returned the second time within a year. He was then given (on Nov. 21, 1908) a dose of 8 Holzknecht units of a Benoist 7 ray. This was followed by healing.

Case 6. Mrs. J. C. The patient was a daughter of the second patient. She was of American birth and was forty years of age. She was first seen at Dr. Fordyce's clinic on Aug. 24, 1912. She presented an elevated, hard, nodular epithelioma on the left side of the forehead, the size of a ten-cent piece.

On Aug. 24, 1912, 5 Holzknecht units of a Benoist 8 ray was administered. There was no erythema following this application, but there was considerable improvement. Three weeks after the first treatment the same quality and quantity of rays were again applied. This was followed by further improvement, but there was still evidence of malignancy. The same dose was given the third time four weeks subsequently. This resulted in a complete cure. The total amount of ray was 15 units—the quality was Benoist 8.

The speaker said that it was his aim to cure an epithelioma with a minimal amount of ray. Case 1 illustrated two points very clearly: first, that epitheliomata recurred after surgical operations; second, that small, oft-repeated doses might fail to cure a case when a single, intensive treatment would produce a brilliant result. Dr. MacKee was of the opinion that small doses applied over a long period of time, produced the same result as was seen on the hands of the pioneer X-ray workers. In other words, the total amount of ray administered was far greater than was necessary to produce a cure and was sufficient to actually produce a malignant growth. Case 6 illustrated one point, namely, that a total of 15 units had been applied in three treatments when the lesion could have been cured by the administration of 6 or 7 units in one sitting. It was not necessary, the speaker said, to cure a case in one treatment, but not more than a half dozen exposures should be made. It would seem that the best way to express it would be to say, apply enough or a little more than enough to thoroughly cure a case, but not to give a large number of treatments of an unknown quality and quantity. The quality and quantity should be accurately measured and the dose must be gauged by the location and character of the lesion, the age of the patient, etc., otherwise the dose might be more than the tissues could tolerate. Another point that Dr. MacKee desired to call attention to was the possibility of the constant stimulation of the fractional-dose method causing the malignant cell to resist the beneficial influence of the X-ray. The speaker stated that he had had seven years' experience with the massive-dose technique at Dr. Fordyce's clinic, and he had not had a single recurrence, which was in contrast with the results he had obtained with the fractional-dose method. He expected to have recurrences, but he predicted that the recidives would respond to radiotherapy, which was not as a rule the case with the single-dose technique.

DR. JACKSON congratulated Dr. MacKee upon the excellent results of the single-dose method of using X-rays. Nothing could be more perfect than the scar near the mouth of one of the old women. He thought that the last case shown was not well yet. There was a suspicious point in the upper part of the scar.

DR. FORDYCE said that he thought the treatment with massive-doses was a vast improvement over the older method.

DR. TRIMBLE, after complimenting Dr. MacKee on the results obtained, said: In these cases of epitheliomata it is always a question as to the best

method of procedure; whether to resort to surgical methods, or to the X-ray, especially the single-dose method. He himself had always obtained very satisfactory results from curettage and cauterization, and hardly thought the cosmetic results could be improved upon, though some of Dr. MacKee's cases showed equally good results. He was still inclined to favor surgery, though he was entirely in accord with X-ray treatment in selected cases.

DR. SHERWELL expressed himself as being exactly in sympathy with Dr. Trimble's views. He had himself obtained equally good cosmetic results from cauterization. He was inclined to think that Dr. MacKee's principle in regard to the application of the X-ray was correct; if one was going to use that method, it should for the cure of epithelioma be used intensively. He had seen cases where it had been used a great many times, with varying periods of exposure and distances of varying length; some of these cases had been made worse instead of better, and finally the X-ray lost its potency. Dr. MacKee's results were certainly beautiful, and if he could secure such results all the time and the cases would remain cured, perhaps it would be the best method of treatment. He still thought, however, there was more certitude, as well as equality in cosmetic results, by curettage, etc.,—the method he (Dr. Sherwell) favored.

He then briefly mentioned a case which he had recently seen in one of his patients, a widow 83 years old, who had first come to him some eighteen and a half years ago with a large epithelioma on the temple. This was removed thoroughly by curettage and acid nitrate of mercury, and never reappeared; but within the last ten days she had returned with a couple of small ones in another location. These he had also removed.

DR. ROBINSON said that the patients presented by Dr. MacKee showed very clearly that cases of carcinoma could be very successfully treated in this manner, but that if any one tried to treat every case of carcinoma of the skin by the same method he would make a great mistake. Every case must be treated on its own merits. He agreed with what Dr. Sherwell had said,—that the old method of applying the X-ray for a few minutes was liable to do more harm than good. If one were going to use the X-ray, the method used by Dr. MacKee was unquestionably the correct one. The results shown were excellent, but just as good could be obtained by other methods of treatment. Two or three of the members had used the word "recurrence" in discussing these cases; he objected to this term, as the later outbreaks were not recurrences but reappearances. If a patient had carcinoma on one breast and then on the other, it was a recurrence; but these cases were reappearances. The disease had reappeared, not recurred, as it had continued all the time.

DR. TRIMBLE said he would like to speak a word in defence of the old method of X-ray treatment. He was willing to admit that this new method, administered properly, was probably the best, but while the old method might perhaps not be so scientific, it had produced many good results. He had seen a number, which were as good as those shown by Dr. MacKee. In other cases, however, the results were not satisfactory and surgery had to be resorted to before obtaining a cure. Whether the patients received too much of the X-ray, or what not, he had seen cases that healed very beautifully under the old method of short multiple exposures.

DR. SHERWELL spoke of the cases of epithelioma caused by X-ray burns. That was not an uncommon result. In one instance he had removed an epitheliomatous lesion from the middle of an X-ray burn, and it never reappeared.

DR. MACKEE said that the time had not arrived when one could decide upon the correct treatment of a given case of epithelioma, whether of the basal or the squamous cell type. Many cases would not respond to X-radiation, but with the massive-dose method no time was lost. If one application was not followed by a marked improvement in three or four weeks, surgical intervention would be



indicated, and in such an instance no harm would have been done. The speaker agreed with some of the members who had found suspicious spots in one or two of the cases. These patients would be given another treatment at once. In regard to Dr. Sherwell's remarks relative to the surgical ablation of an X-ray cancer, he would like to say that Sequeira had, by a single, measured, intensive dose of the X-ray, succeeded in curing X-ray keratoses.

#### CHEILITIS GLANDULARIS. Presented by DR. HOWARD FOX.

The patient, Patrick S., was a man about seventy years of age, born in Ireland. He had first noticed the condition upon his lower lip about thirty years ago. It had then been relieved by local treatment, and had not returned until about two years ago. Since that time he had been annoyed by a gummy discharge upon the lower lip, causing the lips to stick together at times and forming small whitish crusts, which the patient would notice upon awakening.

Examination showed the presence of about twenty-five small pin-head openings upon the lower lip. They were situated mostly upon the mucous surface, a few of them being upon the vermilion border. A viscid, stringy, mucoid substance oozed from the tiny openings upon the lip, particularly upon pressure. The entire lip seemed somewhat swollen. The upper lip was apparently normal. Upon the left side of the vermilion border of the lower lip there was a small patch of keratosis. Upon the buccal mucous membrane just behind the right commissure of the lip there was a round, large pea-sized tumor, apparently a fibro-angioma. The patient, who presented a typical senile skin, was apparently in good health.

Dr. FORDYCE agreed with the diagnosis of cheilitis glandularis, and told of a similar case which he had seen some years ago, occurring in a young man. This case was treated with X-ray, and the condition was improved.

#### TWO ARMENIANS SHOWING SCARS OF THE ALEPPO BOIL. Presented by DR. SCHWARTZ.

Two Armenians, born in Aleppo, presented scars on the face as a result of Aleppo boils from which they had suffered in childhood. Neither of them could remember when the active lesion was present. Neither of the patients gave any history nor signs of syphilis, but both gave a positive Noguchi reaction which had been done in one of the large hospitals of the city. Dr. Schwartz had obtained a negative Wassermann reaction on both. The positive Noguchi reactions obtained in these cases could hardly be connected with the Aleppo boils, as that condition had been cured many years previously. A third Armenian (not presented) with similar scars from Aleppo boils and with a typical hard chancre present, had given both strong positive Wassermann and Noguchi reactions.

Dr. FORDYCE said that he had seen some active lesions of this condition, and had no doubt that the diagnosis was correct. In one case he presented an Armenian girl showing several active lesions of Aleppo boil.

## TUBERCULIDE IN AN INFANT. Presented by DR. MACKEE for DR. FORDYCE.

W. C.; five years of age, born in the United States; from Dr. Fordyce's clinic.

Family history: the father had tuberculous adenitis and scrofuloderma when a child. Both the father and mother gave positive Wassermann reactions. The patient's eight months' old brother had "snuffles."

Past history: the little patient was first seen when he was two years of age. At that time there was a swelling over the proximal phalanx of the left small toe with a discharging sinus leading to the bone. There was a similar condition just above the inner condyle of the right humerus. A radiographic examination demonstrated a proliferative, pyramidal periostitis and an osteitis in the centre of the shaft of the proximal phalanx. This indicated syphilis. There was an osteitis without periostitis at the lower end of the humerus involving the epiphysis. This was indicative of tuberculosis. Two surgical operations on the elbow had failed to give relief. The mother stated that the child had had "snuffles" during his first year of life. The boy was undeveloped physically and mentally. The Wassermann and von Pirquet reactions were positive. Under tuberculin therapy and anti-syphilitic treatment the bone lesions slowly healed and there was a marked improvement in the mental and physical development. The patient, however, was very irregular in attendance. Two years ago tuberculous adenitis and scrofuloderma developed in the left cervical and right axillary regions. One year ago there was an outbreak of superficial, ulcerating papules. These occurred mostly in groups, but there were a few discrete lesions. The papules required several weeks for their evolution, and three or four months for involution. They all underwent central necrosis and left a superficial but very distinct scar. The lesions ranged in size from a head of a pin to a split pea. At times several individual papules coalesced to form a crusted patch. The eruption occurred in crops. The lesions at first were confined to the outer and inner surfaces of the thighs and the extensor surfaces of the forearms. During the past few months new crops had appeared before the older ones had healed and the eruption had spread to the upper arms, abdomen, and to the legs below the knees.

Status præsens: when the patient was presented to the Society, there was a grouped and discrete papular eruption involving the arms, abdomen and legs. Below the knees the papules were follicular, conical and slightly scaly and very minute. The remainder of the eruption consisted of papules, some of which were aneniform, conical and pustular, the size of the head of a very small pin, while others were as large as a pea and presented central necrosis. There were several crusted patches composed of coalesced lesions. When the crusts were removed small

crateriform ulcers were demonstrated. On the thighs and forearms were discrete and grouped sears, the remains of former lesions.

While the speaker thought that the eruption on the whole was rather superficial and did not develop like a papulo-necrotic tuberculide, yet some of the lesions were strongly suggestive of that affection. Although the child was a syphilitic, it was quite certain that the eruption was not a syphilide both on account of the clinical features and the fact that it did not respond to inunctions of mercury. The clinical features and the fact that tuberculin was of no avail would tend to lead one away from a diagnosis of tuberculosi. The speaker, therefore, was in favor of a diagnosis of tuberculide. Dr. MacKee said that a biopsy had not been made, but this would be done, and the report given to the Society at a subsequent meeting.

Dr. Fordyce said that the lesions looked more like lupus than necrotic granuloma.

Dr. Dade also thought it was lupus.

#### MYCOSIS FUNGOIDES IMPROVED BY INJECTIONS OF SALVARSAN. Presented by Dr. KINGSBURY.

Dr. Trimble said that he had seen this patient and felt morally certain that it was a case of mycosis fungoides of the intermediate stage, but that the possibility of lues had also occurred to him. He agreed with the diagnosis given by Dr. Kingsbury, and thought the result of the treatment was wonderful.

#### INITIAL LESION OF THE LIP. Presented by Dr. KINGSBURY.

This was a case of initial lesion on the lip of nearly seven weeks' duration. It looked like a granulated gumma a little while ago. There was not much induration. The patient gave a strongly positive Wassermann reaction.

Dr. Johnston thought the deep ulceration gave it quite an unusual appearance for an initial lesion, and inclined to the opinion that it might be gummatous.

Dr. Howard Fox thought that the practical absence of enlarged glands favored the diagnosis of gumma rather than initial lesion.

Dr. Jackson regarded the ulcer as one rather of a broken down gumma than of an initial lesion, because of the depth of destruction and the almost complete absence of enlargement of the neighboring glands.

Drs. Sherwell, Fordyce and Dade favored the diagnosis of gumma.

#### CASE FOR DIAGNOSIS. Presented by Dr. Fordyce.

The patient was an attendant in a Turkish bath, and presented circinate lesions on the thighs and arms. Many of the lesions presented concentric rings, one within the other. The margins of certain of the patches were distinctly eczematous. The diagnosis rested between an unusual type of ringworm of the body and erythema multiforme. The distribution of the lesions was rather against the latter diagnosis.

DR. JACKSON said that the appearances were those of an infection with some variety of tinea. The ring within a ring, the scaling, and the lesions on the inner side of the thighs almost opposite one another would suggest this. It was a little strange that no fungus was found under the microscope, but he believed that some of the tineas were by no means easy to find.

DR. FORDYCE replied that only a hasty examination had as yet been made.

DR. HOWARD FOX thought the eruption was probably ringworm. It reminded him of a case recently seen in Dr. Jackson's service at the Vanderbilt Clinic. The patient. A sailor, had numerous circinate patches starting from the inguinal region.

DR. DADE considered it a case of ringworm.

DR. MACKEE was in favor of a diagnosis of erythema multiforme. He had had the case under observation at Dr. Fordyce's clinic, and had had an opportunity of studying the eruption in daylight. The lesions were of rapid development, were erythematous, concentric, burned rather than itched, and there was considerable vesiculation at the margins. There was some scaling, but the scales under the microscope failed to reveal spores. In the daylight there was a play of colors strongly suggestive of erythema iris. The patient had stated that he had a similar attack the previous year in which tincture of iodine and anti-parasitic ointments had failed to prove efficacious, and that the lesions either involuted spontaneously or were relieved by internal medication.

DR. TRIMBLE said that he considered the marked scaling against the diagnosis of erythema multiforme.

DR. FORDYCE said that the presence of vesicles would not exclude a tinea circinata, as certain of the fungi associated with tinea produced eczema-like lesions which sometimes gave rise to a serous discharge. Before definitely deciding against the diagnosis of tinea, he would suggest that several examinations of the scales be made.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE for DR. FORDYCE.

The patient was a man, aged fifty years. The duration of the skin lesion was three months. There were no subjective symptoms. On the left side of the chest, extending from sternum to the inner border of the scapula, there was an area of eruption about six inches wide. In some places there were patches, but most of the disease was in one large sheet or plaque. It was deep red, with a livid or purplish hue, very much thickened and brawny to the touch. On close examination there could be seen in places what might be termed papules; they were lighter in color than the original lesion.

Previous history: the patient was admitted to Bellevue Hospital with a small abscess on the inner aspect of the left arm, complicated by a mild cellulitis. He also had an irregular brawny swelling in the neck which was present at the time of presentation.

On physical examination an aortic insufficiency was made out, and the patient's blood pressure was 180.

A skiagraph of his neck and chest showed a dilated ascending aorta. The Wassermann test was negative on two trials. The urine was negative.

Pathological: dilated lymph spaces filled with carcinomatous cells.

DR. FORDYCE said that the microscopic examination had definitely proved that the condition of the patient's skin was a cancerous lymphangitis. The curious feature in the case, however, was the absence of any primary lesion. The case was a unique clinical one.

DR. TRIMBLE said that he had nothing to add to the history. From the best account he had been able to get, the tumor in the neck antedated the chest condition by about two weeks.

#### FOLLICULITIS DECALVANS. Presented by DR. SCHWARTZ.

The patient presented an extensive case of folliculitis decalvans, which had existed for about seven years. The whole top of the scalp presented a white, glistening, cicatricial appearance. There was evidently complete follicular destruction over the entire area and consequent loss of hair. On the sides and back of the head were still to be seen the characteristic papules and pustules of the disease.

DR. SCHWARTZ said that he would be glad to follow Dr. Jackson's suggestion when he began to treat the case. At present, the ætiology of the disease was the most interesting feature to him. Most authorities say that the staphylococcus aureus was the cause of this condition, but it was difficult to understand why this organism should cause such extensive tissue destruction in the scalp when it did not do so anywhere else in the body. He had been making cultures from various parts of the scalp on a number of different media under both aerobic and anaerobic conditions. So far he had been able only to isolate a staphylococcus aureus, and this organism doubtless played some part in the disease. He felt convinced, however, that some other organism, possibly the one described by Quinguard, was the true ætiological agent.

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## NEW YORK ACADEMY OF MEDICINE,

### SECTION ON DERMATOLOGY.

February 6, 1912.

JEROME KINGSBURY, M.D., *Chairman*.

#### Scleroderma and Sclerodactylia. Presented by DR. OULMANN.

The patient was twenty-eight years old; her family consisted of a husband and two children, both well. She had had no illness since childhood and no miscarriages. The troubles of which she complained started about five years ago, when she noticed sores on her fingers. At the tips of them there appeared a little abscess which was painful when it opened and would not heal for several weeks, when another would start on another finger. These sores did not appear so often in the summer. After two or three years, instead of the sores, little ulcers appeared and

the skin at the ends of the fingers got harder; the fingers became drawn and the patient could not bend them in the morning. They were especially thick around the nails. Since last year the ends of the fingers had shortened so that the last phalanges were about a third of their normal size. On some of the phalanges, the X-ray picture showed a small ring. On the thumb there were a few pea-sized pieces of bone left, above the diminished end of the phalanx. The second phalanx showed the structure of a bone of a child in the X-ray picture. The skin of the fingers showed various colors, from deep blue to red and yellow. The nails were shortened and curved. Sometimes there was an inflammation of the matrix and a discharge of pus. The patient never noticed any changes in the skin of the face and thought that through the general trouble she had grown thin. The skin around the mouth and nose was distinctly hardened, the upper lip was shortened, the ears were stiff and the margins retracted. The skin of the chest was also somewhat thinned and hardened, the veins more distinct. At the axillæ on both sides and at the upper arms, there was hyperpigmentation.

**Lupus Vulgaris.** Presented by DR. BECIET for DR. BULKLEY.

This patient was aged forty-five; his family history was negative and he had never had any acute illness. The lesion began twenty-one years ago, on the neck, and had slowly increased to its present condition. The patient presented a large, moist, intensely inflamed, ulcerated area, covering almost the entire front of the neck and lower portion of the face. A biopsy confirmed the clinical diagnosis.

**Tinea Favosa.** Presented by DR. BECIET for DR. BULKLEY.

The patient was eleven years of age, born in the United States. He had four brothers and one sister, all free from the disease. The condition began in very early childhood, and had progressed slowly ever since. The scalp presented a considerable number of cicatrices, upon which no hair appeared. There were a number of yellow scales and several circular, cup-like lesions of a bright sulphur yellow, with depressed centres. The surface beneath the scales presented a red, glazed appearance.

**Lupus Vulgaris of Unusually Slow Growth.** Presented by DR. WISE.

The patient was a male, thirty-two years of age. Fifteen years ago he noticed a small papule near the left commissure of the mouth. The lesion increased very slowly until it reached its present size, about that of a five-cent piece. The patch was slightly raised, soft, of a dusky-red hue. Under diascopy, typical apple-jelly nodules were seen. The case was of interest on account of the limited amount of tissue involved during fifteen years.

**Dermatitis Herpetiformis.** Presented by DR. BECHET for DR. BULKLEY.

The patient was eleven years of age, born in the United States. There was never any disease of the skin in the family. Three sisters were living and in good health. Some years ago the patient had enlarged glands in the neck. No definite history could be elicited. When first seen at the New York Skin and Cancer Hospital some six months ago, the child presented extensive searring and pigmentation over most of the body. There were several small bullæ on non-inflammatory bases, with no tendency to grouping. There were several lesions in the mouth. Later the child, a girl, was admitted to the hospital, where she was experimentally given potassium iodide, on the suggestion of some one who thought it might have been a drug eruption. Five drops of a saturated solution, divided into four doses, were given. A very short time after the administration of the drug, an extensive bullous eruption appeared; a few of the bullæ were as large as a pigeon's egg. She presented an extensive, drying, vesiculo-bullous eruption with here and there a small bulla on an inflammatory base.

DR. WHITEHOUSE said that this patient had a very interesting history. She went to the Vanderbilt clinic on account of an adenitis, and was there referred to the skin department because of a bullous eruption. It was then learned that the outbreak had been preceded by the ingestion of potassium iodide. At the Skin and Cancer Hospital, some time later, a bullous eruption was again observed to follow the ingestion of potassium iodide, so that it was a question if the whole process were not a dermatitis medicamentosa.

DR. BECHET said that he had seen the child at one time with large bullæ with non-inflammatory bases and no tendency to grouping. There were lesions in the mouth. She was not then taking potassium iodide, but the eruption was increased when this drug was given. He thought the disease might possibly be pemphigus.

**Lupus Erythematosus.** Presented by DR. KINGSBURY.

The patient was a man, thirty-eight years of age, born in Austria. The eruption first appeared on the nose and cheeks about fourteen years ago and rapidly spread. When presented there were large atrophic patches on the scalp, and practically the entire face was affected. There was also a patch about the size of a silver quarter on the chin. This lesion was of two months' duration.

**Dermatitis Herpetiformis.** Presented by DR. LAPOWSKI.

The patient was a boy, eleven years old. On the trunk, arms, buttocks, knees and backs of the hands, there were confluent, serpiginous patches with raised borders, urticaria-like, with pea-sized, tense vesicles scattered here and there. The present attack of three months' duration started with an eruption on the face and chest, and then spread. There was severe itching.

DR. POLLITZER said that at present he could see only a papular erythematous eruption, with gyrate figures, which closely resembled urticaria perstans.

DR. LAPOWSKI said that when first seen this looked like a case of erythema multiforme. The next day, gyrate, urticarial patches appeared, each with a border of vesicles; on that account the diagnosis was changed to dermatitis herpetiformis.

**Case for Diagnosis.** Presented by DR. LAPOWSKI.

The patient was a woman, twenty-eight years of age. The eruption, which was on both lips, was of about two weeks' duration. The first attack was on both lips about sixteen years ago. The attacks were confined to the lips, which swelled and emitted a serous liquid that oozed out in large quantities, drying up in yellowish crusts. The attacks occurred mostly in winter, but occasionally in summer also. In the centre of the upper lip there was a raised patch, hypertrophied, of the size of a penny, and with raised borders. The dermo-mucous line of the upper lip was thin, thread-like and red. The mucous membrane line was also thin and red. The line between them was pale. On the lower lip, the dermo-mucous border and the mucous part were swollen; there was no ulceration. On the right side of the nose, alongside of the lower eyelid, a red patch, one and one-half inches in length and a half an inch in width, was seen. There were no scales, no sharply defined border, no subjective symptoms. The patches were of five years' duration.

DR. POLLITZER said that the case was probably one of lupus erythematosus; the spot on the cheek was fairly characteristic, and that on the lip not contradictory. It was of particular interest, in view of the diagnosis of dermatitis seborrhœica formerly made in this case, to note that the disease now known as lupus erythematosus was once called by Hebra seborrhœa congestiva.

DR. LAPOWSKI said that when he had first seen this patient there was a constant oozing from the lips and that serum could be pressed from them; he had never seen this described as a symptom of lupus erythematosus. Since January 19th, no application had been made to the nose, and now scales had formed there. He could not accept a diagnosis of lupus erythematosus for the condition of the lip.

**Syphilis Hereditaria Tarda.** Presented by DR. TRIMBLE.

The patient, a case from Dr. Fordyce's clinic, and previously shown at the New York Dermatological Society, was a girl, born in the United States, single, aged nineteen years. Her illness dated back five months. When she first presented herself for treatment her knees were very much swollen and exceedingly painful; synovitis was apparent on both sides. She was very anæmic, and the blood examination showed only 45% hæmoglobin. The Wassermann test was positive and she was placed on injections of salicylate of mercury. The improvement was rapid. Although the knees became almost normal after two injections, the left elbow began to swell and was exceedingly painful on pressure and movement. At the time of presentation there was a painful bursitis



existing over the tubercle on the right tibia and a tibial node on the right leg. The skiagraph showed a distinct periostitis around the head of the radius on the left side. There was a small diseased area over the tubercle of the right tibia.

*Antecedent history:* The patient's family history was obscure, but it was stated that her mother died of tuberculosis. Careful examination revealed no other evidence of disease. The Moro tuberculin test was negative. The Wassermann test on the father of the patient was negative.

**Syphilis Hereditaria Tarda.** Presented by DR. TRIMBLE.

The patient was a girl, previously shown before the New York Dermatological Society. She was born in the United States, single, aged twenty-one. The only objective symptom at the time of presentation was an enlargement of the bones of the leg. The soft tissues seemed normal, but the legs just above the ankles were larger than formerly. The trouble began five years ago with much swelling, marked tenderness over the tibiae and severe osteocopic pains, which absolutely prevented sleep. For some time the patient was treated for rheumatism. She had weighed 127 pounds, but soon ran down to 97. She presented herself for treatment about four months previously, and at that time the condition just described was apparent. The Wassermann test was positive and she was placed on anti-luetic treatment. The improvement was rapid and marked. She gained flesh from 97 pounds back to 123 pounds and all the symptoms subsided. The Wassermann became negative after three months of treatment. The skiagraph showed much thickening of both bones of the leg, and the tibia and fibula on the left side were fully twice their normal size. There was also a condition of rarifying osteo-periostitis in both bones of the legs.

*Antecedent history:* The patient's mother was dead, but was said to have suffered from tabes the last years of her life. One brother was living; he had a saddle nose and other evidences of hereditary lues.

**Syphilis Hereditaria Tarda.** Presented by DR. TRIMBLE.

The patient, from Dr. Fordyce's clinic, was a young girl, ten years of age, born in the United States. The diagnosis was luetic periostitis. The condition began two years ago. At that time the swelling seemed to be uniform along the front of the tibiae. The legs were painful and the patient suffered a great deal from osteocopic pains. The condition resolved under treatment, but a recurrence took place, the recurrence taking on a nodular appearance (luetie nodes). The Wassermann reaction was positive. The skiagraph showed practically nothing but perhaps a little thickening of the bone. The antecedent history was as follows: The mother gave a clear history of having had lues, but her blood was negative; she had been under treatment for about two years at another institution.

**Syphilis Hereditaria Tarda; Sabre Tibia and Periostitis.** Presented by DR. TRIMBLE.

The patient, from Dr. Fordyce's clinic, was a girl, fourteen years of age, born in the United States. The patient's condition dated back about one year. She suffered at that time with osteocopic pains and great tenderness on pressure. The legs were swollen and the tibiæ showed a marked anterior bowing. She was admitted to Bellevue Hospital, where she was given salvarsan intramuscularly. The patient, at the present time, had very little tenderness over the tibiæ, but the skiagraph was a beautiful example of sabre tibia.

DR. POLLITZER said that these cases showed the inadequacy of the ordinary treatment of syphilis. Although a certain number of cases when treated by the mouth seemed to be cured, showing no symptoms and often a negative Wassermann reaction, yet in the severer cases, and especially where the bones were involved, even the most intense mercurial treatment sometimes failed. Salvarsan, on the other hand, acted like magic in these very cases.

DR. GILMORE said that he had seen a case of painful swelling of the tibia, which was relieved by mixed treatment, but in which both the history and the X-ray examination pointed to a piece of a needle in the bone, which later was removed by operation.

**Atrophia Cutis Idiopathica.** Presented by DR. POLLITZER.

The patient was a woman, thirty years of age, in whom the process began at least ten years ago. The affection involved the entire right leg, from the ankle to the thigh, extending somewhat above the trochanter. It presented the typical picture of essential atrophy: the thin epidermis, the atrophied corium, the deeper veins showing prominently; at the upper portion of the affected area there were evidences of infiltration in the cutis, in the form of more or less extensive, irregular, nodular masses and the skin in this region had a bright red color. Over the patella of the right knee there was a patch of atrophic skin which the patient said assumed its present appearance without having gone through a stage of infiltration or erythema. This history may have some value as bearing on the question of the relationship between idiopathic atrophy and Pick's erythromelalgia, which Klingmüller, Gross and others regarded as a preliminary stage of atrophy.

DR. POLLITZER said that there was no cure for this condition, but that much relief could be obtained by the use of cold cream and vaseline with 2% of salicylic acid.

**Sarcoma Hæmorrhagicum Multiplex Idiopathicum of Kaposi.**

Presented by DR. HEIMANN.

The patient was a man, thirty-six years of age, of Dutch-Jewish extraction. He had suffered from the present illness for five years.

There were no subjective symptoms. His hands, feet, legs and fore-arms were studded with dusky red to purple tumors, varying in size from a lentil to a cent. In addition, there were purple, boggy areas with hard rims, and hæmorrhagic, brown or purple spots. There was some œdema of the legs. The urine was negative. Histopathological examination confirmed the diagnosis. The patient was treated in vain with arsenic injections. Twenty-three Roentgen ray exposures were made to the affected areas, ranging three to each site, each exposure lasting from three to five minutes at an average focal distance of twelve inches, with 3 amperes and a medium high tube. This was followed by practically a total involution of lesions.

**Tuberculide.** Presented by DR. GILMOUR.

The patient was a male, single, twenty-one years of age, born in the United States. His father died of tuberculosis. The patient had always been well and had engaged extensively in long distance running. Last summer the glands just to the left of the median line of the neck began to swell. Shortly after this the anterior cervical chain of glands on the same side began to swell. Those in the median line had broken down and the patient was to enter the hospital for a radical operation. Six months ago the patient noticed a red spot on the centre of the calf of the left leg. Pus was soon noticed in the centre of this spot, and the lesion became covered by a scab. This lesion was slightly painful on pressure; necrosis followed and in one month healing gradually took place. A punched-out scar, one-quarter inch in diameter, remained. A pigmented area extending one-half inch beyond the scar surrounded it. On this leg thirteen small lesions had undergone practically the same process. On the right leg this had occurred in eighteen places. Here the lesions had not been as large and the duration had been shorter. Two large lesions were then present on the right leg. The larger one was about half an inch in diameter; it was a sloughing, necrotic ulcer, which presented the appearance of being made up by the fusing of three smaller lesions. Its duration was about one month. The second was a smaller necrotic lesion and had also a punched-out appearance. There was a discharge from this lesion that resembled softened vaseline. This also had been present one month. Many minute papular lesions had been present on the upper and back part of the thighs for the past three weeks. The Wassermann and von Pirquet tests were both negative.

DR. POLLITZER said that the size of some of the lesions was quite worthy of note, and that they might represent an intermediate stage between an ordinary tuberculide and the erythema induratum of Bazin.

DR. LAPOWSKI said that he saw many such cases, and that he thought that the large size of the lesion was due to ecthyma.

DR. GILMOUR said that he thought that the large lesion was caused by three smaller ones running together.

**Lepra.** Presented by DR. GILMOUR.

The patient was a male, born in the West Indies, nineteen years of age and single. The family history was negative. He had always been well except four years ago, when he had urethritis, followed by a breaking down of the left inguinal glands. One and one-half years ago a small swelling started under the right eye, and another over the outer part of the right eyelid, and still a third swelling below the left eye. The last lesion was largest and started about one-third of an inch below the middle of the left eye. It extended downward and outward for two and one-half inches to the level of the corner of the mouth about one inch from its left angle. This was an infiltrated, bluish-red area made up of three slightly raised areas. No part was raised over one-quarter inch above the surface. There were several very slightly raised anæsthetic patches present. There was one, an inch in diameter, situated on the back of the right forearm, one on the middle of the right thigh, and four small areas on the right leg. A pigmented area, the size of the palm of the hand, was situated on the abdomen, just to the right of the umbilicus. Both ulnar nerves were markedly enlarged. The patient had never complained of fever, which was not uncommon in this disease; or of pain, except that for the past two weeks he had had very slight, dull pain in the right knee joint. Physical examination of this joint was negative. The patient's only complaint was disfigurement. The Wassermann test showed a weak positive, although there was no history of lues.

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**PHILADELPHIA DERMATOLOGICAL SOCIETY.**

The regular monthly meeting of the Philadelphia Dermatological Society was held at the College of Physicians on November 11, 1911.\* DR. JAY F. SCHAMBERG, *President*.

**Case for Diagnosis.** Presented by DR. STELWAGON and DR. GASKILL.

The patient was a female child of thirteen, but resembled in appearance an individual of only eight years. She was noticeably emaciated. The face, which was very old looking, drawn and covered with fine grayish scales on an inflammatory base, and the slightly nodular condition of the nose, contrasted strangely with the diminutive stature of the patient. The chin was covered with coarse rhagades that terminated rather suddenly underneath in a board-like rigidity, with almost total

\* The January, February and March, 1912, transactions of the Philadelphia Society will be found in the January, February, March, April and May, 1913, issues of THE JOURNAL.

lack of color. Three healed lesions were observed upon the right elbow; the scars were about one inch in diameter. Two similar scars were noted upon the right knee, and one healing lesion gave the characteristic appearance of syphilis. There were punched-out scars and small umbilicated papulo-tubercles on the dorsal surface of the fingers. Dactylitis was a noticeable feature. The teeth were notched, really more pegged, but not of the typical Hutchinson variety. The mother stated that the little patient had been attacked by scarlet fever, measles, diphtheria and several abscesses, at the age of four years. There had been great improvement under "mixed treatment." The diagnosis was uniformly made of seborrheic eczema of the face. The opinion of those present was more or less divided between syphilis and tuberculosis as the cause of the curious anomaly. The lesions on the fingers resembled markedly a papulo-necrotic tuberculide.

**Circumscribed Scleroderma.** Presented by DR. HARTZELL.

The patient, a woman aged fifty-three years, presented a board-like area below the right scapula, of ten months' duration. The lesion was silver-dollar in size, whitish-yellow in color, smooth, and exhibited telangiectases coursing over the surface. There were no subjective symptoms. The resemblance of the present lesion to morphea was remarked.

**Rhinoscleroma.** Presented by DR. STELWAGON.

A typical condition of this disease was presented, in the person of a woman of forty-nine years. The patient stated that the disease first made its appearance four years ago and since then had been more or less progressive. The hardening and condensation of the skin started on the tip of the nose and extended to the nares. The central portion of the upper lip was of a dark-reddish color and cartilaginous in hardness. The entire tip of the nose, including the alæ, was of almost bone-like consistency. There was narrowing of both nares, with considerable atresia of the left one.

**Canities in a Child of Sixteen Months.** Presented by DR. KNOWLES.

A male infant of sixteen months presented a half dozen, split-pea to dime-sized areas of white hair, on the left side of the scalp. The contrast against the red locks, covering the remainder of the scalp, was quite grotesque. Superficial ulcerations were also observed upon the buttocks, symmetrically and contiguously arranged. The latter were probably due to the moisture and uncleanness of the attacked area.

**Tertiary Syphilis and Eczema.** Presented by DR. STELWAGON and DR. GASKILL.

There was observed in a woman of sixty-five an outbreak of four years' duration on the inner and the plantar surface of the right foot. Marked

induration and scaliness were noted in the lesion, which was of a purplish color, sharply margined and of a serpiginous arrangement. Portions of the lesion had healed, leaving a typical scar. A patch of eczema, which was exceedingly pruritic, was also present on the foot.

**Epidermolysis Bullosa.** Presented by DR. STELWAGON and DR. GASKILL.

An undeveloped boy, aged fifteen years, was presented with several very superficial blebs, from one-half to two inches in diameter, mostly on the soles of the feet and the legs. The boy was exceedingly small in stature and gave the appearance of being only half of his age. The head appeared very large as compared to the size of the rest of the body; the scalp was covered with a fine downy growth of light hair. The small-sized patient was mentally normal and exhibited an almost precocious intellect. The finger nails were distorted, indented and atrophied. The little patient had been having these bullæ for some years, but had not noted particularly as to a traumatic origin. No skin affection was observed in any other member of the family.

**Psoriasis of Extensive Involvement.** Presented by DR. SCHAMBERG.

A female patient, aged thirty-six, exhibited a typical outbreak of this disease, of twenty-five years' duration. The face showed a marked outbreak of this affection. Dr. Schamberg elaborated upon the possible parasitic origin of the condition. Metabolic studies were being carried out in the present case.

**A Probable Case of Syphilis.** Presented by DR. STELWAGON and DR. GASKILL.

On the right side of the upper lip, slightly beyond the median line, and invading the vermilion border of the lip, was observed an indurated patch, with scarring and loss of hair. The patch was partially covered with scales and thick crusts, and there was a considerable amount of purulent discharge. The case developed in a male of thirty-six years, and was of interest because of its resemblance to sycosis vulgaris.

**Epithelioma of the Mouth.** Presented by DR. PFÄHLER.

A patient, a male of forty-one years, was sent to Dr. Pfahler by Dr. Pfromm, on October 7, 1912, for the treatment of an epithelioma, which involved one-half of the right side of the palate and the gum on the upper jaw; the inner surface of the cheek also showed the disease. The growth had an elevation of about one-quarter of an inch. The electric spark (desiccation) was first employed, and since then radium had been used internally on the growth and the X-rays externally. At the time

of presentation the palate was healed, the cheek almost cured, and a small ulcer behind the last molar tooth seemed to be healing.

**Hypertrophic Lichen Planus.** Presented by DR. PFAHLER.

A male, aged fifty-one years, was exhibited, with a red spot, one-quarter inch in diameter, on the anterior surface of the upper third of the tibia, of five years' duration. The patch had slowly increased until it occupied a space of the palm of the hand in size. The area was elevated about one-quarter of an inch, had a roughened appearance, and was of a bluish-violet color. The patch was made up of pea and larger-sized, irregularly shaped papules. The patient had had eleven X-ray exposures, with very little improvement.

**Case for Diagnosis.** Presented by DR. STELWAGON and DR. GASKILL.

A male, aged twenty-one, was presented with a punched-out lesion on the chin that had existed for three years. The lesion, according to the patient, had remained stationary since its first appearance. It was about one-quarter inch in diameter, slightly raised, punched-out in appearance and crusted. At times a slight watery material would exude. The two diagnoses considered by those present were an infection of a hair follicle or an infected sebaceous cyst, probably the latter.

**Case for Diagnosis (previously exhibited).** Presented by DR. DAVIS.

Dr. Davis presented the patient, whom he had previously shown before the mid-winter session of the American Dermatological Association, in December, 1911, and also at a later meeting of the Philadelphia Dermatological Society. The diagnosis originally lay between epithelioma and blastomycosis. A pure culture of the yeast fungus had been obtained from the growth. No blastomycetes had been discovered either in culture or in the sections that had been made. The microscopical picture was strongly suggestive of epithelioma. The lesion had, however, improved markedly under local antiseptic treatment and the internal administration of large doses of potassium iodide. Further study would have to be carried out before a conclusive diagnosis could be made.

DR. HARTZELL stated that he still adhered to his original diagnosis of epithelioma.

**Fungoid Type of Bromide Eruption.** Presented by DR. STELWAGON and DR. GASKILL.

A male, aged fifty-eight years, presented a warty, fungoid eruption, on the dorsal aspect of the left hand, of four months' duration. An outbreak of the same character had previously been observed on the middle finger of the left hand, on the right hand and on the fingers. A photograph showed the extent of the original lesions. The only area that had

not as yet healed was on the back of the left hand, one inch in diameter, raised above the sound skin, dusky-red in appearance and distinctly warty in character. The patient had taken the various bromide compounds over a long period for epilepsy. Eighteen months ago a marked outbreak of pustules was noted on the back during the administration of large doses of sodium bromide. The present outbreak was observed following the ingestion of ammonium bromide. The lesion resembled clinically either blastomycosis or tuberculosis verrucosa cutis.

**Lichen Planus Attacking the Palms.** Presented by DR. FINCK.

An eruption attacking the palms, the dorsal surfaces of the hands, the wrists, the ankles and the soles of the feet, of three weeks' duration, was observed in a man of thirty-three years. The palms showed a very marked involvement, hundreds of lesions being present. Because of the thickness of the epidermis in this location the eruption could have been very easily mistaken for some other condition. The lesions on the other areas attacked were absolutely typical of lichen planus. The mucous membranes of the cheeks and the lips also exhibited an outbreak. The pruritic symptoms were marked.

**Epithelioma of the Mucous Membrane of the Cheek.** Presented by DR. PFAHLER.

The patient, aged sixty-eight, had had some irritation of the mucous membrane of the cheek for twenty-five years because of the excessive use of tobacco. This area had likewise been irritated during the last ten years by a jagged tooth. Some six months ago an extensive epithelioma developed on the site mentioned, involving two inches of the inner side of the cheek and about two and one-half inches of the gum of the left side of the jaw. The glands under the jaw exhibited a metastatic enlargement. The high frequency spark (desiccation) was to be used to destroy the growth and the X-ray was to be applied externally and internally.

**Dermatitis Papillaris Capillitii.** Presented by DR. PFAHLER.

The patient, aged twenty-one, had suffered for five years with the present outbreak upon the posterior surface of the neck, at the hairy border. The skin was red, papulo-pustular, verrucous, and slightly keloidal. The condition had already improved markedly under X-ray treatment, nine exposures having been given. The patient was of the Caucasian race.

**Dermatitis Herpetiformis.** Presented by DR. STELWAGON and DR. GASKILL.

A female, aged forty-two, was exhibited with an extensive outbreak of two years' duration, chiefly located upon the back, the anterior surface



of the chest and the upper part of the arms. There was, at the time of presentation, a more or less quiescent stage of the usual active outbreak. The most prominent type of eruption that had been observed consisted of vesicles, showing the characteristic grouping. The patient had developed, within the last few weeks, dime-sized, somewhat oval, elevated, rough, reddish lesions, with grayish scales, noted particularly upon the face. The latter lesions resembled strongly those found in psoriasis. The patient complained of intense pruritus on the body, but practically none on the face.

**Tertiary Syphilis.** Presented by DR. FINCK.

A male, aged forty-six, exhibited a palm-sized outbreak of two years' duration upon the face. The lesion was observed upon the right cheek and both lips. It was of a dusky-red color, quite papillomatous, suggesting somewhat either a tuberculosis verrucosa cutis or blastomycosis.

**Verrucae Treated with the X-ray.** Presented by DR. PFAHLER.

The patient was presented to the society a year ago with numerous warts on the face, confined to the bearded region. Antiseptics seemed to have no effect upon the condition. Vigorous Roentgen-ray treatment caused the hairs of the beard to fall and a disappearance of the warts. The warts, however, recurred after the hair had returned. Desiccation had been used in their eradication.

**Carcinoma of the Breast.** Presented by DR. PFAHLER.

The woman, aged sixty-five, presented to the society, had had carcinoma of the breast for five years. Radium treatment proved a failure after two years' trial. Two years ago, a medicated plaster was applied, which destroyed part of the breast, but the surrounding area never healed. When the patient first came to Dr. Pfahler, last August, there was a scar, two-thirds the size of a hand, about one-half of which was indurated. There was also an indurated ulcer with elevated ridges, one and one-half inches in diameter. Since that date she had had thirty-five X-ray treatments, resulting in the healing of the ulceration and the disappearance of the induration.

**Case for Diagnosis.** Presented by DR. HARTZELL.

A curious outbreak was exhibited by a male of eighteen, who gave the history of having had the condition for four years. Pea-sized, slightly scaly lesions were observed upon the abdomen, the thorax and the sides of the thighs. The outbreak was brownish in color and slightly pruritic. A biopsy showed that the lesions were inflammatory in character.

**Dermatitis Factitia.**  
HIRSCHLER.

Presented by DR. SCHAMBERG and DR.

The patient exhibited was an inmate of a State Home for Girls. She had the interesting history of an alcoholic grandfather and a feeble-minded, alcoholic father. The family tree also provided syphilis, epilepsy, cancer, criminals, sexual immorality, insanity and idiots in the last three generations. Diffuse patches of dermatitis with oozing, crusting and excoriations were noted over the posterior surface of the forearms, back of the neck, and a few scattered patches upon the face. The patient first complained of the erythema, and in a short time, possibly two hours, the more violent symptoms would be manifest.

DR. HARTZELL referred to a case recently seen in which the patient confessed to using lye in producing the outbreak.

FRANK CROZER KNOWLES, M.D., *Reporter.*

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**PHILADELPHIA DERMATOLOGICAL SOCIETY.**

The regular monthly meeting of the Philadelphia Dermatological Society was held at the College of Physicians, December 9, 1911. DR. JAY F. SCHAMBERG, *President.*

**Case for Diagnosis.** Presented by DR. WALKER.

The patient, aged thirty-five years, gave a history of having run a nail into the ball of the left thumb three weeks ago. The patient now had a quarter-dollar-sized, ulcerating area, highly inflammatory, bright-red in color, exuding a muco-purulent material. There was no induration to the lesion, although it was somewhat suggestive of an initial infection. There was a lymphangitis of the arm, and the glands in the left axilla were markedly enlarged. No other glandular enlargement was present. A microscopic examination for spirochaetae proved negative, as did also a Wassermann test. The lesion was exceedingly painful. The patient complained of no other symptoms excepting headache.

**Erythema Multiforme, with Unusual Characteristics.** Presented by DR. STELWAGON.

The patient, aged twenty-eight, gave a very indefinite history as to the duration of the disease and the number of attacks. Apparently, however, the first attack was observed in the autumn season, five years ago, and lasted but a few days or a few weeks; another outbreak occurred a year ago, and the present lesions developed approximately five weeks

ago. The eruption was almost generalized in distribution, most abundant, however, upon the trunk. The shoulders, the chest and the back exhibited pea-sized, raised, pinkish to reddish, wheal-like lesions, arranged in a linear and serpiginous manner, grouped in annular, gyrated and festooned patches. The outbreak was noted everywhere excepting upon the scalp and the face. The patches on the forearms and the wrists were annular in shape, from one-half to a silver-dollar in size, quite infiltrated, and resembled markedly *granuloma annulare*. Those on the trunk resembled somewhat the *erythema perstans* type. Wheals could be readily produced by rubbing the skin or by stimulating the same with a blunt instrument. Pruritus was marked. Lesions tended to come and go, but the majority, apparently, persisted. A few of the lesions were of a bluish color, evidently showing resolution.

**Pemphigus Vegetans.** Presented by DR. SCHAMBERG.

A male, aged sixty-two years, of the Russian Jewish denomination, was presented with a bullous eruption involving the penis, the inner surface of the thighs, the axillæ, the chest, and sparsely scattered lesions over the body, of nine months' duration. Like so many cases of this character, the skin showed less involvement than the mucous membranes; the tongue, the lips and the greater portion of the mouth showed denudation, evidently where blebs had been and had broken. Although there were no distinct signs of vegetation observed, those present agreed that it was a pemphigus, which would very probably turn into the vegetative type. Hypodermics of the arseniate of soda seemed to have been very beneficial, temporarily at least.

DR. STELWAGON referred to the benefit derived from hypodermic injections of the cacodylate of soda.

DR. KNOWLES referred to the temporary betterment of a case of pemphigus vegetans by intravenous injections of salvarsan and neosalvarsan.

**Fibroma Molluscum.** Presented by DR. WALKER.

A well-developed male, aged fifty, of normal intellect, was exhibited with thousands of soft growths, of thirty years' duration. Practically every portion of the cutaneous surface showed the tumors, with the exception of the palms and the soles. The protuberances were from pea to hen's-egg in size and a considerable number were pedunculated. There were no subjective symptoms.

**Fibrosarcoma.** Presented by DR. PFAHLER and DR. ZULICK.

The lower lip of a girl, aged fourteen years, presented a firm growth of some months' duration. The tumor was somewhat ill-defined and the diagnosis was by no means definite. Several teeth had been lost in the involved area. The affection was being X-rayed.

**Syphilis of Tertiary Type (previously exhibited).** Presented by  
DR. FINCK.

Dr. Finck exhibited the case shown at the last meeting, the patient at that time having a palm-sized tertiary syphilitic lesion on the right cheek. The area had almost entirely healed under one injection of 0.9 gramme of neosalvarsan.

**"Portwine" Birthmark Treated with Desiccation (previously exhibited).** Presented by DR. PFAHLER.

The result so far produced by this method of treatment, on each of the three presentations, had been excellent.

**Dermatitis Venenata.** Presented by DR. FINCK.

A man of thirty years showed a marked dermatitis, of six days' duration, upon the palms, the dorsal surface of the hands and the face. Numerous vesicles were observed, from pinhead to pea in size. The outbreak was apparently caused by the handling of strong solutions of carbolic acid.

**Fibroma Molluscum.** Presented by DR. PFAHLER and DR. ZULICK.

A woman, aged twenty-four, apparently normal excepting for the skin affection, was presented with hundreds of tumors of sixteen years' duration. There was no other case of this affection in any member of her family. New lesions were constantly appearing. The tumors were from pea to pigeon's-egg in size. There were no subjective symptoms.

**Lichen Planus Accompanied by Formation of Bullæ.** Presented by  
DR. DAVIS and DR. KNOWLES.

A male, aged eighteen, gave the unusual history of having had the beginning of the present condition fifteen years ago. There was a typical outbreak of lichen planus upon the wrists and forearms, and the remainder of the eruption was observed on the lower extremities. On the latter region, the papules were somewhat acuminate, not of the usual flat type, of a reddish more than a violet hue, and from pinhead to split-pea in size. Interspersed among these acuminated lesions was a considerable number of vesicles and bullæ. The patient stated that there was very little itching. The chief points of interest consisted in the shape of the lesions, the duration of the condition, the presence of bullæ and the lack of itching.

FRANK CROZER KNOWLES, M.D., *Reporter.*

## CHICAGO DERMATOLOGICAL SOCIETY.

A list of selected cases presented at the Chicago Dermatological Society during the year 1912.

O. H. FOERSTER, M.D., *President*.

(Continued from page 356.)

**Epithelioma of the Nose and Forehead.** Presented by DR. FOERSTER and DR. BAER.

A woman, aged sixty-four, was shown, in whom an epithelioma developed twelve years ago on the right side of the dorsum of the nose. This progressed slowly and was treated three years ago with X-rays during eighteen months, with very good effect. Two years later a recurrence set in, and in March, 1912, ulceration resulted in a collapse of the lower third of the nose, owing to destruction in the interior. When presented the case showed an epitheliomatous margin at the cutaneous defect and a partly cicatrized interior. Rapid improvement had followed five X-ray treatments in the past four weeks.

**Lupus Erythematosus of the Scalp.** Presented by DR. FOERSTER and DR. BAER.

The case presented was that of a man aged twenty-seven, in whom four fingernail-sized patches of typical lupus erythematosus developed on the scalp in August, 1909. They became confluent, and had recently enlarged. The patient had never had treatment. The case was presented because of its limitation entirely to the scalp.

**Multiple Benign Cystic Epithelioma.** Presented by DR. FOERSTER and DR. BAER.

The patient, a woman aged twenty-three, stated that the disease began at the age of thirteen years on the neck, beneath the chin. No new lesions developed until three to four years ago, when they appeared on the chest, abdomen, and recently on the face. No lesions had ever disappeared, and they had remained discrete with few exceptions. In the past three years new lesions had steadily appeared, and when the patient was presented the sites affected were the cheeks, chin, eyelids, neck, chest, arms, both thighs and abdomen. The older lesions were prominent, linear, firm, yellow-red growths, with the pearly appearance of epithelioma. Many of the lesions contained milia. Among the lesions on the chest were some of large pea-size and globular shape. No other members of the family were similarly affected.

**Urticaria Pigmentosa.** Presented by Dr. FOERSTER and Dr. BAER.

The patient was a boy aged nine years, in whom the disease began at the age of two months, with an eruption of flat red spots, some capped by blebs, some of which contained blood. The child seemed to be in good health at the time, and had since been well. None of the lesions had ever disappeared, and they had undergone practically no alteration in the past eight years. The lesions were almost uniformly the size of a dime, circular, sharply margined, of chamois leather color, with an appearance as though inlaid. After rubbing the lesions they changed their color to rose-red and became slightly elevated, this being the only evidence of an urticarial nature. In the lobe of the right ear was a small lesion closely resembling xanthoma. A biopsy had not yet been made.

Dr. PUSEY suggested that the case may have been one of xanthoma, because of the absence of any marked factitious urticaria, and the yellow, inlaid, sharply margined character of the lesion.

**Alopecia of Doubtful Origin.** Presented by Dr. FOERSTER and Dr. BAER.

The patient was a woman, aged twenty-five, apparently in good health. Alopecia began two years ago, confined at first to the anterior hair margin and the mastoid region, with an appearance suggesting alopecia areata. One year ago there occurred a marked alopecia involving the entire scalp, with an eruption on the oral mucous membrane exactly resembling lichen planus; at this time the Wassermann reaction was faintly positive. The mouth became normal after six months, although the alopecia continued to the present time, with considerable regrowth of hair. The Wassermann reaction had remained negative since. No history or indications of former syphilis were present. She was on mercurial and later mixed treatment for a time without apparent effect. The nails remained normal. The hair was atrophic, and the scalp appeared to be normal, with the exception of a very slight seborrhœic dermatitis. It was assumed that the alopecia was of an unknown toxic origin.

**Lupus Vulgaris.** Presented by Dr. FOERSTER and Dr. BAER.

The patient presented a lesion of the cheek, of four years' duration, in a girl aged eight. During the first two years the lesion reached the size of a dime, but had rapidly enlarged since to a half-dollar-sized patch. She had had no treatment until X-rays were begun six months ago.

**Lupus Vulgaris.** Presented by Dr. FOERSTER and Dr. BAER.

This was a case of lupus of the cheek, of four years' duration, in a girl fourteen years old, with a healed tuberculous osteomyelitis of the femur. The lesion had increased rapidly in area during the past six

months, and was almost the size of a half dollar. She had had no treatment until X-rays were begun two months ago.

Both cases of lupus when exhibited showed the declining reaction following X-ray dermatitis.

**Dermatitis Herpetiformis.** Presented by DR. FOERSTER and DR. BAER.

The disease was of four years' duration, in a man aged eighteen. The eruption was partly pustular and partly vesicular, with an urticarial character of the base of each lesion, affecting all parts of the body except the palms and soles. The case was shown because of an intense brown to black pigmentation of the trunk, neck and extremities, which had developed within the past two years. Irregularly dispersed in the pigmented skin were lighter-colored, pea-sized spots, which had no relation to the existence of past or present lesions. The patient had dark brown eyes and hair. The mucous membranes were of normal color. He had never taken arsenic. The eruption itched intensely, and was confined almost entirely to the scalp, head, and neck, until six months ago, when it became general.

**Lupus Vulgaris of the Forehead.** Presented by DR. FOERSTER and DR. BAER.

The disease was of three years' duration, in a woman aged sixty-three. Until six months ago the disease remained as a dime-sized patch, but had since then enlarged to the size of a silver quarter, and was composed of typical lupus nodules as seen under glass pressure. No history of syphilis was obtainable; the Wassermann was negative; mixed treatment was given without effect. After five exposures to X-rays, a dermatitis occurred, which was still present when the case was exhibited.

**Disseminated Lupus Vulgaris.** Presented by DR. FOERSTER and DR. BAER.

The lesions were of eighteen months' duration, in an Italian boy aged five. Fifteen split-pea-sized lesions of lupus vulgaris were irregularly dispersed on the face, arms and legs, with one half-dollar-sized circinate patch on the left buttock near the anal orifice, and an irregularly outlined, thickened patch of silver-quarter size on the dorsum of the right wrist. The lesions appeared suddenly, apparently in one crop, without reference to any previous infectious disease. Other members of the family were in good health.

**Dermatitis Herpetiformis and Vitiligo.** Presented by DR. FOERSTER and DR. BAER.

These were shown in a man, aged fifty-five. Vitiligo of moderate degree appeared twelve years ago, but had grown very pronounced in the

past three years. Erythemato-vesicular lesions of dermatitis herpetiformis developed in May, 1907, and with a few slight remissions the disease had been constantly present ever since, being at times purely vesicular in type. Itching and nettle-like stinging sensations were practically constant. Every portion of the cutaneous surface had been involved at some time, although there was a decided predilection for the forehead, chest, scapular region, and inner surface of the thighs. The vitiliginous areas were equally involved in the eruption. Fowler's solution in moderate dosage was the only means of relief and controlled the eruption. Both palms showed arsenical keratosis.

**Sycosis of Eyebrows and Eyelashes.**      Presented by Dr. FOERSTER  
and Dr. BAER.

The disease was of five years' duration, in a single woman, aged fifty-one, who was an expert stenographer. The patient was of a markedly hysteric type, and addicted to the use of hypnotics. The hairs of the eyebrows and eyelashes had all been epilated by the patient whether the follicle was diseased or not. About once in ten days a deeply seated intra-follicular abscess formed in either eyebrow, probably as the result of the continuous traumatism of epilation. Treatment, including autogenous vaccines, had been without effect.

**An Unusual Type of Lupus Erythematosus.**      Presented by Dr.  
FOERSTER and Dr. BAER.

The eruption occurred in a girl aged eighteen, with imperfect peripheral circulation. The disorder began as an itching, scaling maculopapule on the right lower eyelid one year ago and spread peripherally so that within three weeks the nose, both cheeks, and both lower eyelids were involved. The areas affected were slightly œdematous, covered with an imperfectly cornified layer centrally, with prominent sebaceous orifices, and had an elevated border covered with scales and crusts. Itching and burning were marked. At times the process was scarcely to be distinguished from seborrhœic dermatitis, and was a duplicate of the case described by Guth in the *Archiv. f. Derm. u. Syph.*, Vol. cix. Later an itching, rose-red, blotchy, erythemato-papular eruption appeared on the hypothenar eminence of each hand and at the nail fold of two fingers on the left hand. After three months, the lesions on the face rapidly disappeared, with slight pigmentation and without scar formation. Five months later the disease again appeared on the right cheek, and was extending.

**Pigmentation of the Gingival and Lingual Mucous Membranes.**  
Presented by Dr. FOERSTER and Dr. BAER.

This pigmentation had occurred as a result of bismuth poisoning in a girl aged ten, with Pott's disease. From July to October, 1910, the



patient had received several injections of bismuth paste into a tuberculous fistula connected with a psoas abscess. About two months after the last injection a stomatitis developed, with pea-sized and smaller erosions of the oral mucous membranes, fætor of the breath, some pain in the jaws, but without constitutional symptoms referable to bismuth intoxication. A dark blue line appeared on the gums, and large areas of the buccal and sublingual mucous membrane, especially in the right half of the mouth, were colored intensely blue, including the right edge of the tongue. The patient was presented almost two years after the first injection of bismuth paste, and about eighteen months after the stomatitis first appeared, but still showed irregular, bluish-red to bluish-black patches, especially on the edge of the tongue and gingival margins, resembling hæmorrhages beneath the mucous membrane, at first glance.

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#### MANHATTAN DERMATOLOGICAL SOCIETY.

Regular Meeting, Dec. 6, 1911.

M. B. PAROUNAGIAN, *President*.

(Continued from page 362.)

#### **Lupus Erythematosus Disseminatus.** Presented by DR. GOTTHEIL.

Joe F. was admitted to the City Hospital November 15, 1912. His eruption appeared first on the left ear, then on the right side of the nose, some two and a half years ago; four months later lesions appeared suddenly all over his chest, back and upper arms. Three months later lesions appeared on the lower abdomen, and during the last year they had come upon the fingers. At the time of presentation both ears, the mastoid regions on both sides, the malar surfaces of both cheeks, and the nose presented the typical lesions of a lupus erythematosus of moderate severity. The interest of the case, however, centred in the hundreds of smaller lesions that were scattered over the trunk, back and front, and on the dorsal surfaces of the hands and the margins of the nails. These were small, oval and circular and showing dermal changes similar to those of the skin of the face, yet different in certain particulars, and in various stages of development. Some of them were atrophic, depressed areas in which the lupoid process had apparently run its course. Others again were red, depressed, with the characteristic greasy scales. Individual lesions on the body were not apparently increasing much in size; and no information could be gotten from the patient as to whether new ones were still appearing. Judging from the number and condition of the smallest lesions, Dr. Gottheil thought that this was still the case.

DR. HOWARD FOX thought that the term *disseminatus* was not entirely suitable for this case. It was true that there were numerous disseminated lesions. They were, however, of the fixed discoid and scarring type. There were none of the superficial, diffuse patches that he had seen upon the face in a number of cases of true *lupus erythematosus disseminatus*. He did not think this the type of a case that frequently terminated in pulmonary tuberculosis.

**Nodular Syphiloderm.** Presented by DR. OCHS.

The patient presented was a male adult, thirty-three years of age, who stated he had had gonorrhœa four years previously to his presentation to the society, but denied any initial lesion. Examination showed that he had a tubercular syphiloderm confined to the back of the wrists and hands, moist papules on the penis, and small tubercular lesions confined to the ankles and knees, the rest of the body being free. Dr. Ochs said the infection was either a late secondary or an early tertiary, and that a beginning gumma of the tongue was present.

**Local Asphyxia Perniones.** Presented by DR. OCHS and DR. GOTTHEIL.

Nettie T., twenty-six years of age, was sent to Dr. Gottheil by Dr. B. L. Schaefer, and for the past two years, before presentation to the society, had had trouble with her hands in cold weather; they had been swollen and red, at times hot and throbbing, at other times cold and numb. During the winter of 1910 the trouble was moderate and she was not disabled; in that of 1911, however, their condition was much worse, and obstinate ulcerations occurred from trivial causes, causing her to become incapacitated during the cold weather. In the summer, though her hands remained swollen, livid and white and abnormally hot or cold, she was able to work. This fall her trouble began earlier than before, even when the weather was still very mild, and bid fair to be worse than ever. Her feet were very slightly affected.

Both her hands and forearms were swollen, blue, livid, and absolutely cold to the touch. On the fingers especially, and also on the backs of the hands, were numerous fairly soft nodules, hardly visible, but distinctly palpable; some could be felt in and under the skin of the left forearm. On the outer surface of the left hand was a small sluggish ulceration, present two weeks; this was originally due to traumatism, and from past experience the patient did not expect it to heal all winter. Last winter she had these same nodules, but not so many; several of them on the fingers suppurated. Both feet showed changes similar to those of the hands, but very much less in degree. On the legs were a number of scars, stains, and some nodules resembling those of tuberculides, of which the patient gave no history, save that the nodules had been present a long time. She was a domestic and knew that exposure to cold, especially to alternate heat and cold, dry and wet, made her hands worse.

Dr. WEISS thought that the lupus-pernio-like lesions, with the papular, necrotic tubercles, favored the diagnosis made by Dr. Gottheil, and he would call the eruption a tuberculide.

Dr. MACKEE considered this case to be one of papulo-necrotic tuberculide. It was not uncommon in this disease to have cold, congested and pernio-like conditions of the hands and fingers. Dr. Gottheil's patient was very similar to the case that the speaker presented to the Society last year; a woman who had small, superficial, slowly evolving papules of the forearms, which underwent slight central necrosis and which left a very faint scar. She also presented cold, congested hands with large, hard nodules on the fingers of long duration, some of which ulcerated. A histological study had been made in that case without, however, any satisfactory finding. There was, the speaker said, an urgent need for careful study in these cases and until proof had been submitted to the contrary he would classify them under tuberculide.

Dr. GOTTHEIL said that he regarded treatment quite hopelessly in these cases; even palliative measures were usually ineffective. The patient's occupation as a domestic servant was the worst one possible, since she was exposed to perpetual alternations of heat and cold, dryness and wet; she contemplated marriage, but this would probably make the conditions worse rather than better. The best advice to give these cases was that of permanent removal to a warm climate; they suffered much less, and sometimes not at all there.

#### **Gumma of the Forehead and of the Naso-Pharynx.** Presented by Dr. OCHS.

The patient, a female adult forty-nine years of age, was infected by her husband twelve years ago. Upon examination there was found a large, hard, globular mass, adherent to the frontal bone, directly over the left eye, about the size of a small egg. It was not painful to the touch and did not cause any pain to the patient. In the naso-pharynx a fairly large ulcerating gumma was visible. The Wassermann reaction was positive.

#### **Lupus Erythematosus.** Presented by Dr. KINGSBURY.

Ellen D., twenty-nine years of age, was born in Ireland. She was a waitress by occupation. Scaly red patches appeared on the left arm a year previous to presentation to the society, and her face became affected about six months later. When before the society there were several small lesions on the arms and three thickened patches each about an inch and a half in diameter. The face was practically covered by a superficial but quite typical eruption. This was apparently spreading.

#### **Keloids (Extensive).** Presented by Dr. KINGSBURY.

William J., twenty-one years of age, was born in Russia. In the February previous to his presentation to the society, this man was badly burned by an acid thrown in his face with malicious intent. In attempting to protect himself the right wrist was burned and some of the acid also ran down on the chest. About three months after the assault, keloids began to develop in the scars and when before the society the man had

large elevated masses on the forehead, right cheek, both sides of chin, neck and chest, and the right wrist. The right eye had been completely destroyed. That the patient had a keloidal tendency was evidenced from the fact that a keloid developed on the arm where the skin had been removed by a surgeon for the purpose of grafting it on the face.

**Acne Varioliformis(?).** Presented by DR. MACKEE.

The patient, a man thirty-three years of age, was from Dr. Fordyce's clinic. His history was negative with the exception of a penile ulcer of one week's duration, ten years ago. He had five healthy children and his wife never had a miscarriage. Two years ago he began to have split-pea-sized ulcers on the right side of the nose, which left depressed scars. During the two years the patient had never been free of lesions. Each ulcer lasted from one to three months. The speaker had observed papulo-pustules, but had not seen any vesicles. The eruption and scarring were limited to the right side of the nose with the exception of one crusted lesion on the right side of the upper lip. There was some crusting and infiltration of the nasal mucous membrane of the right side. The Wassermann reaction had not been determined.\*

DR. MACKEE said that he had considered the possibility of syphilis on account of the unilateral and localized distribution of the eruption and the fact that the mucous membrane of the nose was involved. This last fact, however, would suggest the possibility of the lesions being due to pyogenic infection from the nose. Also, inasmuch as it had been demonstrated that acne varioliformis was due to the staphylococcus, it was not impossible that it was a case of acne varioliformis secondary to a lesion due to pyogenic organisms. The speaker said that he thought a syphilide of two years' duration would be likely to cover a greater territory or to have produced greater destruction of the parts, and that the eruption would not consist of such small lesions possessing such a regular cycle of existence, nor would they be so superficial.

DR. GORTHEIL favored the diagnosis of chronic folliculitis. A nodular syphiloderma would not have lasted nearly two years without absorption, ulceration or extension. Acne varioliformis was unlikely to be so strictly limited to one side of the nose, without lesions elsewhere, and the individual lesions of this affection, slow as their course was, would not remain so long with so little change.

**Phagedænic Soft Chancre(?).** Presented by DR. OCHS.

The patient was a male negro, twenty-two years old, who presented two distinct phagedænic ulcers on the under surface of the penis. He entered the clinic three years ago, suffering with a typical chancre, and was treated with nine or ten injections of mercury and then disappeared. Two weeks previous to his presentation to the society he again visited the clinic and presented a soft chancre which was rapidly getting worse. At first it was a small, circular sore, soft to the touch, and with but little pain, but rapidly grew larger, and showed characteristics of a

\* The Wassermann reaction was positive, and the lesions involuted under anti-syphilitic treatment.

phagedæna. Though the patient was given hypodermic injections of mercury salicylate, and wet dressings of mercury bichloride, the progress of the disease was not arrested; when presented he showed these two large ulcers, and was suffering from excruciating pain. No microscopic examination could be made as the patient had refused to submit to a biopsy.

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REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York.

Assisted by

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ROBERT C. JAMIESON, M.D., Detroit.	HARVEY P. TOWLE, M.D., Boston.
FRANK C. KNOWLES, M.D., Philadelphia.	UNO J. WILE, M.D., Ann Arbor.

DERMATOLOGISCHE WOCHENSCHRIFT.

(Jan. 18, 1913, lvi, No. 3.)

Abstracted by FRED WISE, M.D.

**Bacteriological Investigations of Various Cutaneous Inflammations (Light Reactions, Carbon Dioxide Reactions, Eczema, Ulcers, etc.).** MARTHA EHRLICH, p. 74.

The importance and significance of streptococci and staphylococci in the normal and the diseased skin have not as yet been fully recognized. Ehrlich has made studies of the bacterial content of vesicles, bullæ and crusts in artificially produced inflammations of the skin and also in various types of eczema and leg ulcers. The method adopted in making cultures was that recommended by Lewandowsky, who employs slants of agar, applying very minute quantities of the inoculation material to the surface of the nutrient material.

Of 39 Finsen-light reactions examined by Ehrlich, all of them being vesicles containing clear serum, all were found to be sterile. Three vesicles containing cloudy fluid were infected with the staphylococcus aureus. None of the vesicles contained the streptococcus. These lesions were from two to five days old. Of 58 crusts from 20 patients, 22 were sterile, 36 contained the staphylococcus, 8 streptococcus, 2 pseudodiphtheria bacillus. Pure staphylococcus infection was

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found in great numbers; streptococci were never found pure, but invariably combined with staphylococci. The clinical appearances of the crusts gave no indication as to the variety of the bacteria which they carried, for some of the transparent, clean looking crusts showed infection, while some of the thick, yellowish, even purulent crusts proved to be sterile. Of 7 vesicles produced by the mercury-quartz lamp, 6 proved to be sterile. The crusts of these lesions, on the other hand, were found to be all infected with streptococci and staphylococci. Of 4 bullæ produced by the application of carbon dioxide, 3 were found to be sterile, one contained staphylococci, and two of the crusts showed a mixed infection. The significance of these findings is then interestingly discussed in relation to the bacteriology and ætiology of the various forms of eczema.

A second series of experiments was carried out with reactions produced by the von Pirquet and the Moro tuberculin tests. Ehrlich examined 8 von Pirquet and 9 Moro reactions, all of them showing marked inflammatory symptoms, and found them all to be sterile with the exception of one Moro reaction, the lesion of which contained staphylococci. Nearly all classes of lesions which were sterile at their inception, later became infected by the staphylococcus. (*To be concluded.*)

#### Further Contribution to the Study of the Infectiousness of the Blood of Syphilitics to Rabbits. AUMANN, p. 81.

In a previous article the author described his experiments with the inoculation of spirochæta-free blood and serum from syphilitics into rabbits. In five out of seven rabbits so inoculated, spirochætae were demonstrated after an incubation period of six to eight weeks. Of 16 rabbits which were inoculated with the specific material, 7 were infected with syphilis, while the rest showed no signs of the disease after a considerable length of time. In another series of experiments, the author obtained positive results most frequently when he employed defibrinated blood for inoculation purposes. He thinks that successful inoculation depends, in great part, upon the stage of syphilis in the patient from whom the blood is obtained, but has not been able to decide at which period the most favorable results are to be expected. The time elapsing between the removal of the blood from the donor, and the inoculation into the rabbit, also must play an important rôle; Aumann believes that the syphilitic virus can maintain its virility outside of the human host for at least two hours. This question has an important bearing upon the subject of contagion through drinking cups, eating utensils, etc.

The period of incubation in all of the author's rabbits proved to be between six and eight weeks.

(*Ibidem*, Jan. 25, 1913, lvi, No. 4.)

#### Bacteriological Investigations of Various Cutaneous Inflammations (Light Reactions, Carbon Dioxide Reactions, Eczema, Ulcers, etc.). MARTHA EHRLICH, p. 103. (*Concluded.*)

In dermatitis medicamentosa, Ehrlich found the vesicle of an iodoform eruption to be sterile, as were two crusts of a bromide eruption. The purulent lesions contain staphylo- and streptococci, these organisms being also found in the lesions of a pustular mercurial dermatitis and a dermatitis caused by iodine. In a general way, the author found this class of eruptions to be in part sterile and in part infected.

Beside the streptococcus impetigo contagiosa, several clinically atypical cases of impetigo were found to be contaminated with the staphylococcus; this was also found to be the case in impetigo circinata; in ecthyma, streptococci were

invariably found, together with staphylococci; in eczema, a mixed infection was usually noted; ulcers of the leg showed both varieties of organisms; the cultures from these frequently showed the presence of bacillus pyocyaneus.

(*Ibidem*, Feb. 1, 1913, lvi, No. 5.)

**Clinical and Statistical Study of the Ætiology of Cutaneous Tuberculosis, with Especial Reference to Lupus Vulgaris.** ERNST RUPP, p. 129.

The questions which Koch brought up in 1901, whether the bacillus of bovine tuberculosis is transmissible to man, and whether the bovine and the human type of bacillus were identical, have not as yet been definitely decided. The bacillus of bovine tuberculosis is rarely found in pulmonary tuberculosis in man, but this form is common in tuberculosis of other organs, more especially in children. Severe cases of mesenteric tuberculosis in children have been found to be due to the bovine type of the organism. The remarkable fact has been noted by Engelbreth, that nine-tenths of the lupus patients at the Finsen Institute in Copenhagen hail from rural districts, where they come in contact with cattle; this observer draws the conclusion that these cases owe their infection to the bovine type of the tubercle bacillus. But, as a matter of fact, statistics which Rupp has collected, show that those communities which have a high percentage of bovine tuberculosis, do not possess a correspondingly high ratio of lupus cases. Of 72 cases of lupus vulgaris under the author's observation, 49 were said never to have come in contact with cattle; only three of the 72 were probably infected with the bovine tubercle bacillus.

Rupp concludes that by far the greatest majority of all cases of lupus vulgaris and tuberculosis verrucosa cutis are due to infection with the human type of tubercle bacillus, and that the infection with the bovine type of the organism is a comparative rarity. This applies more especially to the adult cases. Furthermore, he believes that the source of infection is usually to be found to originate from a pulmonary tuberculosis, either in the lupus patient himself or in the individuals with whom he comes in contact.

**A Case of Generalized Congenital Hyperkeratosis.** J. BRAULT, p. 144.

Brault describes a case which he saw in Algeria, of a boy of twelve, afflicted with an uncommon form of universal hyperkeratosis, the entire skin being involved in the process. The skin was furrowed and wrinkled and covered with thick, gray, uneven and lamellated scales, more marked in the flexures of the large joints, than over the rest of the body. The scalp resembled the appearance seen in old cases of favus and the face looked as though it were covered with a mask of collodion. A biopsy was not permitted. The case improved under baths, ointments, soaps, etc. The author discusses the differential diagnosis between this disease and ordinary generalized ichthyosis.

ANNALS OF OPHTHALMOLOGY.

(January, 1913, xxii, No. 1.)

Abstracted by CLARENCE ALLEN BAER, M.D.

**Syphilitic Pseudohypopyon.** ROLLET, p. 62.

Four varieties of syphilitic pseudohypopyon are considered. First, syphilitic pseudohypopyon when symptomatic of a gumma of the iris. It may occur among secondary symptoms, or even when the chancre is cicatrizing, or, as in another

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case, twenty-six years after inoculation. Second, when the pseudohypopyon is symptomatic of a gummatous infiltration of the cornea. Third, the entire eye is invaded by a rapidly developing iridocorneal infiltration. Fourth, possible primary pseudohypopyon not secondary to lesions elsewhere—the author considers this variety to be questionable.

### DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Feb. 13, 1913, xxxix, No. 7.)

Abstracted by CLARENCE ALLEN BAER, M.D.

#### **Experimentation with Dungen's Simplification of the Wassermann Reaction.**

WALTER DRUEGGE, p. 30.

The author considers results in 33 negative and in 13 positive cases with reactions performed according to Dungen's modification and according to the Wassermann reaction in the same subjects. The conclusion drawn is that Dungen's modification of the Wassermann reaction is reliable, provided that the examination be made according to the prescribed plan and with the care required.

#### **Sympathetic Nystagmus in Erysipelas.** CÆSAR HIRSCH, p. 315.

Hirsch states that he has seen nystagmus in 40 cases of head and face erysipelas. His conclusions are (1) that spontaneous horizontal rotary nystagmus is usually an accompaniment of face and head erysipelas; (2) that such a nystagmus is especially important from a diagnostic standpoint in cases where the erysipelas is localized only in the scalp, and vomiting, chill, delirium, etc., might be referred to some intracranial complication; (3) as an early or prodromal symptom it is of great use because, by early isolation, spread of erysipelas may be prevented.

(*Ibidem*, Feb. 20, 1913, xxxix, No. 8.)

#### **Concerning Acute Syphilitic Nephritis in the Early Stage.** ERICH HOFFMANN, p. 353.

Early acute syphilitic nephritis is rare. There is present a large amount of albumen (3 to 13%) and it is seen usually when the cutaneous eruption is most marked or even before the roseola appears. Occasionally the nephritis may show itself suddenly with great œdema or it may begin without visible symptoms. The discovery of spirochætæ pallidæ in the sediment of catheterized urine is diagnostic. Treatment should consist of salvarsan or mercury, and Hoffmann recommends a careful salvarsan-mercury treatment.

### ANNALES DE MÉDECINE ET CHIRURGIE.

(Jan. 1, 1913, xvii, No. 1.)

Abstracted by HARVEY PARKER TOWLE, M.D.

#### **Purpura. Communication to the Pediatric Society.** TRIBOULET, WEIL and PARAF, p. 1.

The writers give the clinical history of a case of purpura in which the accompanying anæmia was intense. The blood examination showed nothing abnormal except the signs of anæmia. The coagulation time was normal.



The patient, a boy of 7 years, had long suffered from repeated attacks of purpura, with and without accompanying persistent epistaxis, vomiting and abdominal pain. Various methods of treatment had been tried and had failed, including injections of diphtheria antitoxin. The reporters finally gave the patient four weak X-ray treatments, two over the spleen and one over each tibia. The effect was as prompt as it was remarkable. The patient was discharged well, 12 days after the last irradiation.

So far as they could learn, this is the first time in which irradiation of the hæmatopoietic centres has been used in the treatment of purpura or of hæmophilic conditions, although radiotherapy is not new in the leukæmias or in pernicious anæmia. They carefully point out that, in the latter diseases, as the object is to produce a depressing and destructive action, the X-rays are therefore given in large and repeated doses. The writers, however, desired to stimulate, not to depress, the blood forming centres and therefore used a very weak dose, with the satisfactory result related.

#### **The Treatment of Infantile Tuberculosis on the Mediterranean Littoral, by the "Marine and Solar Cures," L. REVILLET, p. 4.**

The climate of the French Riviera is admirably suited to the treatment of tuberculosis by the combined methods of sea bathing and heliotherapy. The mild temperature permits the maximum amount of out-of-doors and of continuous sea-bathing throughout the winter.

At Cannes, Dr. Revillet treats his tuberculosis cases by means of daily sea baths and graduated exposures of the affected parts to the direct rays of the sun. He, of course, also employs the usual hygienic methods. The surgical treatment is limited to the simplest palliative measures. Abscesses are opened by the smallest possible puncture-incision which will allow of drainage and avoid a large open wound. Injections of iodine into the abscess cavity are sometimes added. Painful joints are immobilized until the pain has moderated, but the apparatus is removed as quickly as possible. In fact, surgery occupies the inferior position in the general scheme.

It is seldom necessary to omit the daily sea-bath, even in the coldest months, as the temperature of the water rarely falls as low as 46° C. It is always of short duration, from 1 to 3 minutes at the maximum; at the beginning being little more than an immersion.

The duration of the sun bath is gradually increased from 1½ to 1 hour, at the beginning of treatment, to include the greater portion of the sunlight hours. When the temperature is high, the exposed part is covered by a light dressing of white gauze which effectually protects it from sun-burn.

The writer confirms the observations reported by others of the favorable prognostic import of pigmentation, of the comparatively rapid relief of pain and of the congestive action of the sun. Concerning the red and infra-red rays of sunlight he says, "There result therefore, under the influence of the red and infra-red rays, two processes; one a process of cicatricial repair, the other of phagocytosis and, indirectly, of bactericidal action."

Dr. Revillet has observed that after several exposures a white swelling, a necrotic process, lupous and tuberculous ulcerations show a mild recrudescence of redness, swelling and suppuration upon the surface. Ordinarily, the symptoms quiet down without treatment. Occasionally, their persistence compels a temporary cessation of the exposures for several days. Tolerance is always established eventually.

Dr. Revillet believes that the combination of the three factors (sea air, sea baths and sunlight) possesses many points of superiority in comparison with the simple measure of heliotherapy at a high altitude, especially in its production of the more prompt and pronounced gain in weight and rapid increase in general health and bodily vigor.

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Eight hundred and eighty-eight cases of all varieties of tubercular infections have been treated at Cannes. A positive result (improvement?) is reported in 90.67%, a cure in 2.41%.

To illustrate the various types of disease and the effects of the treatment, thirty-one cases are described briefly. Histories of sinuses, fistulae, tuberculous glands—both ulcerated and non-ulcerated, lupus, cutaneous gummata and infected joints all testify to wonderful results obtained. The following results are representative. The skin of the abdomen of a child of four years (Case XXIX) was riddled by a hundred suppurating nodules. In 8 months, she returned to Geneva entirely cured. In Case XXX, the tuberculous process had utterly destroyed the skin of one hip over an area about 5 inches in diameter. Nevertheless, without the aid of other treatment than the air, the baths and the sun, the ulcer was healed and the skin regenerated. In the cases of lupus, progress is rapid under this sun treatment. The crusts fall; desquamation is produced; cicatrization follows, first, in scattered islets, eventually over the whole surface of the diseased tissue.

The scar resulting from the sun-cure is always soft, supple, inconspicuous; never keloidal. Often indeed "it has absolutely the aspect of sound skin; it (the healing process) is veritably the *restitutio ad integrum*."

(*Ibidem*, Nov. 15, 1912, xvi, No. 22.)

### Clinical Notes on the States of Anaphylaxis. P. 678.

Although, at first sight, the subject of anaphylaxis is not intimately connected with dermatology, continued study is gradually demonstrating that, in this imperfectly understood reaction, may lie one of the most important contributing factors in the production of disturbances of the skin. Considered from this point of view, the résumés of these sixteen papers possess considerable interest for the dermatologist.

For example, it is interesting to note that Achard and Flandin report that they have succeeded in isolating and studying the poison formed during the anaphylactic state. They concluded that the toxic agent is found in the nervous system much more abundantly than elsewhere; that it is present only during the period of active anaphylaxis; that it probably is a lipid substance; that the subject is not always toxic to other animals of the species from which it was derived but also to some animals of other species; and that its active anaphylactic properties are essentially heterogeneous, its passive properties simultaneously heterogeneous and, particularly, homogeneous.

Widal, Abrami and Brissaud (page 680) draw the conclusion from their experiments that the intravenous injection of a man's own serum produces in him the conditions of anaphylaxis. They also concluded that this "serum auto-anaphylaxis" as they called it, can be produced only by the intravenous route. It does not seem to be necessary to give a preliminary, sensitizing injection in order to produce the effects; from which they conclude that the patient is already, and permanently, sensitized to the albumins in his serum. Moreover, the reaction to the first dose does not confer immunity, as the provocation of equally intense symptoms by the subsequent injections proves. They found that these accidents were more frequent when the serum had undergone a certain handling whose effect was evidently to render its albumins more heterogeneous. If the serum recovered was reinjected with the greatest possible despatch, say in two or three hours, the symptoms of anaphylactic action were very inconstant. On the other hand, if the blood from which the serum was obtained was left in the incubator at 37° C. for from sixteen to twenty-four hours, auto-anaphylaxis resulted with very great frequency. In some instances, the dose of the reactive serum was minimal, 0.5 cc. in one case. "Evidently our organisms are

almost constantly in a condition of anaphylactic sensitiveness because of the presence of a certain quantity of heterogeneous albumins in the circulation."

Martin and Darré report their observations of 1,400 cases treated by serotherapy at the hôpital Pasteur. Nearly all received the anti-diphtheritic serum. Only about  $\frac{1}{2}$  of 1% developed anaphylaxis. The symptoms were identical with those after a first injection but, conforming to von Pirquet's law, with an accelerated reaction. Especially noteworthy, however, are their experiences with serotherapy in 20 cases of meningitis. Two developed anaphylaxis. One of the two died with classic symptoms of anaphylactic reaction. The second showed signs of compression which, however, were relieved immediately by an extensive lumbar puncture.

Discussing the conditions which give rise to alimentary anaphylaxis, Lesne and Dreyfus state that the condition is most apt to occur in subjects with gastro-intestinal disturbances.

There are a number of other papers which, dealing with alien conditions, interest the dermatologist but little. Two, however, warrant brief mention. In one, Gongerot asserts that there exists an "anaphylaxis de groupe": co-sensibility of the leprous with tuberculin, of the tuberculous with leprosin; increasing passive anaphylaxis. In the second, Leri maintains that the anaphylactic states and the diatheses present too many characteristics in common that there should not exist between them more than an apparent similarity.

#### ZEITSCHRIFT FÜR KINDERHEILKUNDE.

(Jan. 18, 1913, v, No. 6.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**Experiences with Salvarsan and Neosalvarsan in Lues Congenita.** E. DÜNZELMANN, p. 512.

This is the same paper which was previously reviewed in connection with the meeting of the Pediatric Society at Munich.

#### MONATSSCHRIFT FÜR KINDERHEILKUNDE.

(1912, xi, No. 9.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**Eosinophilia and the Exudative Diathesis.** ARNOLD BENEFY, p. 421.

Dr. Benfey takes the opportunity afforded by the publication of Aschenheim's paper on this subject in an earlier number of the Monatsschrift (No. 6, 1912 [abstracted]) to report a case which lends support to Aschenheim's opinion that eosinophilia and the exudative diathesis are independent manifestations.

He also gives a second private case with reference to the relationship of overfeeding to the production of an exudative diathesis. In this still unborn patient, there existed good reasons for the belief that he, like the others of his family, would exhibit signs of the exudative diathesis. With this possibility before them, the parents agreed to measure with the scales the amount of breast milk obtained at each feeding. Finding that the infant was receiving too much, the amount was promptly reduced in its second week. No cutaneous disturbances developed until the second year when a typical, although slight, eczema appeared behind the ears.

## 450 REVIEW OF DERMATOLOGY AND SYPHILIS

### INDIANAPOLIS MEDICAL JOURNAL.

(December, 1912, xv, No. 12.)

Abstracted by LOUIS CHARGIN, M.D.

**Salvarsan in the Treatment of 180 Cases of Syphilis.** G. BOWMAN, p. 515.

A very good analysis.

### CANADIAN PRACTITIONER AND REVIEW.

(December, 1912, xxxvii, No. 12.)

Abstracted by LOUIS CHARGIN, M.D.

**The Uses of White Precipitate in Diseases of the Skin.** D. MONTGOMERY, p. 691.

The mildly stimulating and antiseptic quality of white precipitate makes it a valuable remedy in superficial streptococcic skin affections, its action probably depending upon the formation of the minute quantities of  $\text{HgCl}_2$ . For the same reasons he finds it an excellent remedy in acne. As an insecticide in pediculosis, it has its use, especially when pediculosis is complicated with impetiginous eczema. Combined with tar it makes an excellent remedy in psoriasis and chronic indurated patches of eczema.

### L'ENFANCE.

(January, 1913, i, No. 1.)

Abstracted by HARVEY PARKER TOWLE, M.D.

**The Treatment of Syphilis in Nurslings.** A. LEVY-BING and L. DUROUX.

This article, despite its title, concerns itself solely with the treatment of precocious hereditary syphilis. In the short clinical preface, the attention is first attracted by the statement that one pathognomonic sign is to be found in every case, i.e.: "the complete modification of the weight curve," by which is made manifest the depressing influence of the infection.

The writers state that, as a general rule, treatment should be instituted the moment the diagnosis can be made and that, the more multiple the manifestations and the more dangerous their seat, the more vigorous it should be. After the signs of active disease have disappeared, a chronic, intermittent treatment should be insisted upon.

The general rule which should govern the treatment of cases in which the child is apparently sound but whose parents are syphilitic is equally precise. If the Wassermann reaction is positive, no further indication is needed—specific treatment is then a necessity. If the reaction is negative, the child should be kept under careful observation and the test repeated at intervals.

The successful treatment of syphilis in infants rests upon two great factors. The first is a most rigid observance of the rules of hygiene and of nourishment. Breast feeding is of prime importance but, if quite impossible, the sterilized milk of a goat or an ass may be substituted. The second great therapeutic factor of success lies in a proper selection and use of the three antisypilitic medications, mercury, arsenic and iodine which, it should be remembered, possess neither the same action nor the same value. In a general way the florid, active

## REVIEW OF DERMATOLOGY AND SYPHILIS 451

lesions which favor the multiplication of the treponema demand the administration of mercury or arsenic, while the infiltrated lesions call for the association of the iodide with the mercurial.

If the liver and the kidneys functionate perfectly, the infant will bear relatively large doses of mercury surprisingly well. Symptoms of intoxication rarely occur. The drug may be given by any of the various methods but the writers prefer injections. Their advice is to begin treatment with daily injections (of the biiodide or the benzoate of mercury) divided into two series of fifteen injections each, a free interval of two weeks intervening between the first series and the second. This intensive treatment should then be followed by weekly injections of gray oil.

Regarding dosage, it is stated that one can, without danger, inject infants with a daily dose in the proportion of  $\frac{1}{2}$  milligramme of the biiodide for every kilogramme of body weight. The dose of grey oil is 1 centigramme, given weekly during the first month, and 2 centigrammes, toward the third month. After every sixth injection, treatment should be suspended for from four to six weeks.

The iodide is rarely used in infancy. When indicated, 0.05 to 0.15 grammes in milk may be given daily. Its action, however, must be very carefully watched as grave symptoms of intolerance are easily excited by the drug.

The results from salvarsan and neosalvarsan are so little satisfactory that neither is recommended.

Whatever the method of general treatment, local applications are considered to be of equal importance in the treatment of erosions and ulcerations.

### ST. PAUL MEDICAL JOURNAL.

(December, 1912, xiv, No. 12.)

Abstracted by LOUIS CHARGIN, M.D.

#### Report of Three Cases of Dermatitis Following the Use of Benetol. H. G. IRVINE, p. 624.

This substance is a solution of alpha-naphthol in glycerine, soap and water, and similar in its irritative qualities to beta-naphthol, to which it is closely related. The three cases reported showed one or more of the following: redness, œdema, papules, vesicles, pustules or bullæ. Subjectively there was burning, itching and smarting. The conditions soon cleared upon removal of the drug and the application of soothing lotions and ointments.

### AMERICAN JOURNAL OF DERMATOLOGY AND GENITOURINARY DISEASES.

(November, 1912.)

Abstracted by LOUIS CHARGIN, M.D.

#### The Pathology of the Skin from the Eyelids and the Naso-Facial Grooves. J. McDONAGH, p. 569.

This splendid study is summarized by the author as follows: Tumors affecting the orbito-facial and naso-facial grooves are of epithelial origin and atavistic of both the lower eyebrows and the specialized glands found in these regions in many

of the mammalia. There is probably not an individual which will not show some trace of epithelial embryonic tissue, when section is made from the skin of these grooves. All the tumors from a simple lanugo hair follicle growth, to a rodent ulcer, are links in one chain, the former being the most mature, the latter the most embryonic.

**Calcareous Concretions and Sclerodactylia in Raynaud's Disease.** H. DAVIS,  
p. 578.

The writer thinks that insufficient attention is paid to these complications of Raynaud's disease. He reports a case and cites two others. This case presented granular concretions and scars on the fingers and on the olecranon (the scars resulting from ulcerations of the concretions) and areas of scleroderma, which he believes is the beginning condition of sclerodactylia. Chemical analysis of the concretions show them to be made up of calcium carbonate and phosphate. There is a more intimate relationship, he thinks, between scleroderma and Raynaud's disease, than is generally supposed.

## OBITUARY.

### DR. PRINCE A. MORROW.\*

It becomes our sad duty to once more record the death of one of our valued and honored members. Dr. Morrow was a member of this Society for thirty-seven years and an active participant in and an inspiration to its meetings, almost up to the time of his death.

While recognized throughout the world as a dermatologist and syphilologist of wide experience and ability, his special study of leprosy peculiarly fitted him to speak with authority upon this subject, and his able discussion, when cases of this nature were exhibited from time to time, was always listened to with the greatest attention. We shall greatly miss his authoritative opinions upon this subject.

Personally, Dr. Morrow was a commanding figure, tall, handsome and dignified in bearing, almost austere, some might say, but to those who knew him long and well he was a most loyal friend and congenial companion.

The high character of Dr. Morrow's life's work is shown in the following short biographical sketch, which reveals the great loss sustained by his death, both in the field of dermatology and sociological endeavor:

Dr. PRINCE A. MORROW was born December 19, 1846, at Mount Vernon, Christian County, Kentucky. His parents were William and Mary (Cox) Morrow, natives of Virginia. He received his education at Cumberland College, Kentucky, and the degree of A.B. from Princeton College, Kentucky, in 1864. In 1873 he received the degree of M.D. from the New York University Medical College, and in 1880 the degree of A.M. from the same institution. From 1871 to 1873 he studied in Berlin, London, Paris and Vienna, and in 1874 he located in New York, making a specialty of dermatology, syphilology and genito-urinary diseases.

Dr. Morrow was clinical lecturer on dermatology, 1882-1883, in the Medical

\*Biographical sketch presented to the New York Dermatological Society by Dr. H. H. Whitehouse.

Department of New York University, and became Professor of Genito-urinary Diseases in the same institution in 1883. At the time of his death he was Emeritus Professor of Genito-urinary Diseases in the University and Bellevue Medical College. He served as Visiting Surgeon to the Charity Hospital, as Attending Physician to the Skin and Venereal Department of the New York Hospital for many years, and was Consulting Dermatologist to the City and St. Vincent's Hospitals. He was a member of numerous general medical societies besides those of a special nature as the New York Dermatological Society, the American Dermatological Association, the American Association of Genito-urinary Surgeons, corresponding member of la Academia de Medicina de Mexico, Société Française de Dermatologie et de Syphiligraphie, die Wiener dermatologische Gesellschaft, and Societa Italiano di dermatologia e sifilografia. He was also the Secretary for the International Congress of Dermatology and Syphilography, Paris, 1890, and Vienna, 1893, and the Vice-President of the Dermatological Section of the Pan-American Congress.

In 1888-89 he made a special study of leprosy, traveling through Mexico, California and the Hawaiian Islands.

He, with Dr. Piffard, edited THE JOURNAL in 1883-84-85, was its sole editor the following three years, and continued as editor with Dr. Fordyce through 1889-90-91.

He was the translator of Fournier's Syphilis and Marriage, 1881, and was the author of Venereal Memoranda, 1887; Drug Eruptions, 1887; an Atlas of Skin and Venereal Diseases, System of Genito-urinary Diseases, Syphilology and Dermatology, 1888-89; Leprosy, 1899, and Social Diseases and Marriage, 1901. In addition to these volumes, Dr. Morrow was a large contributor to the literature of skin and venereal diseases.

Of late years he gave most of his time to the subject of prophylaxis of venereal diseases and was instrumental in founding the American Society of Sanitary and Moral Prophylaxis, and was its President from its organization in 1905. He also organized and was President of the American Federation for Sex Hygiene, and was one of the Directors of the Society for the Prevention of Crime. He founded *Social Diseases*, a journal devoted to the report of the progress of the movement for their prevention, in 1910, and was the author of many papers and addresses on the subject of the prophylaxis of social diseases, and of numerous educational pamphlets issued by the Society of Sanitary and Moral Prophylaxis. In 1901, as Chairman of a committee appointed by the Medical Society of the County of New York for the study of measures for the prevention of venereal diseases, he prepared the Report of the Committee of Seven, which included results of the investigation of the morbidity and mortality of these diseases in New York with recommendations as to means for prevention.

On April 23, 1874, Dr. Morrow married Lucy B. Slaughter, the daughter of the late Thomas Jefferson and Mary Henry Slaughter. He had six children, three of whom survive him.

He was a member of the Southern Society, the Kentuckians, the City Club, and the Richmond County Golf Club.

#### LOUIS ADOLPHUS DUHRING, M.D., LL.D.

LOUIS ADOLPHUS DUHRING, M.D., LL.D., Professor Emeritus of Dermatology in the University of Pennsylvania, died May 8, 1913, at his residence in Philadelphia, after an illness of two months. The son of Henry and Caroline Duhring, he was born in Philadelphia, Dec. 23, 1845. In 1861 he entered the University of Pennsylvania as a student in the Academic Department, where he continued three years; at the end of his Junior year he entered the Medical Department of the University, from which he received the degree of M.D. in 1867. The next

fifteen months were spent as an interne in the Philadelphia (Blockley) Hospital. Upon the completion of his term of service in this hospital he went abroad for two years to pursue the study of dermatology in the clinics of London, Paris and Vienna, in the last of which he was a pupil of Hebra when this great teacher was at the height of his fame. Immediately upon his return to Philadelphia, in 1870, he began that active, industrious career as an author and teacher of cutaneous medicine which was to bring him so much distinction, and awaken interest in a branch of medicine which until that time had received little or no attention in America. He founded the Philadelphia Dispensary for Skin Diseases of which he was the Physician-in-Charge until 1880, and Consulting Physician from 1880 until 1890, when it was merged with another institution. In 1871 he was appointed Lecturer on Diseases of the Skin, and in 1875 Professor of Diseases of the Skin, in his alma mater, a position which he held until 1910 when, upon resigning, he was made Professor Emeritus. During a period of thirty years he was actively engaged as a teacher of dermatology, and made many important contributions to the literature of this branch of medicine. In 1876 he published an atlas of diseases of the skin which in the accuracy and life-like character of the portraits was, and still remains, one of the best ever published; in the same year his "Practical Treatise on Diseases of the Skin" appeared, which immediately took high rank as a text-book, and was subsequently translated into French, Italian and Russian; and his "Cutaneous Medicine," the first part of which was published in 1895, bade fair to be a monumental treatise upon diseases of the skin, but unfortunately it was never completed. While many of his contributions were of great importance he will, perhaps, be best remembered for a series of papers, some 17 or 18 in number, on dermatitis herpetiformis, in which he maintained that certain forms of cutaneous disease which had been described from time to time under a great variety of names, and which had hitherto been regarded as separate affections, were in fact only varying manifestations of one and the same malady, for which he proposed the name dermatitis herpetiformis, a view which has been generally accepted by dermatologists throughout the world. American dermatology owes a large debt to Dr. Duhring's work. He was one of the founders of the American Dermatological Association, twice its President, and for many years one of its most active and highly esteemed members. His fame as an authority upon diseases of the skin was not limited to the United States alone, but was truly international; he was known and esteemed wherever medicine was studied and taught, and was an associate or honorary member of the chief foreign dermatological societies.

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## BOOK REVIEWS.

VERGLEICHEND-DIAGNOSTISCHER ATLAS DER HAUTKRANKHEITEN UND DER SYPHILIDE, EINSCHLIESSEND DIE DER HAUT ANGRENZENDE SCHLEIMHÄUTE. (Differential Diagnostic Atlas of Skin Diseases and the Syphilides, including the Muco-cutaneous Regions.) Von Dr. S. EHRLICH. A. O. Professor der Dermatologie und Syphilidologie an der K. K. Universität, Vorstand der Dermatologischen Abteilung des K. K. Allgemeinen Krankenhauses zu Wien. 312 farbige Figuren auf 91 Tafeln und 191 schwarze Abbildungen im Text; erklärender Text in 29 Vorlesungen. *Gustav Fischer, Jena, 1912.*

In this elaborate atlas, Ehrlich has completed a work which gives evidence to the painstaking and conscientious labors of a man who attempts to present the difficult subject of dermatological differential diagnosis in a relatively compre-



hensible manner. Viewed from any aspect, a work of this type requires years of the most careful preparation, and, as the author says in his preface, the collection of the necessary material for the book actually began in the earliest years of his professional career as a dermatologist. The atlas comprises a series of twenty-nine lectures, in which differential diagnosis is discussed from two different angles. These may be illustrated by quoting the titles of some of the lectures; for example, the sixth lecture is entitled "Individual Diseases of the Nose and the Adjacent Parts." The thirteenth deals with the subject of "Bullous, Erythematobullous and Vesicular Diseases." From this it will be seen that the differential diagnosis is dealt with both from the standpoint of regional predilection of cutaneous disorders and from the standpoint of similarity of various disorders to each other. The lectures are all profusely illustrated with large and small half-tones and chromophotographs, all of which have a direct bearing to the annexed text. The majority of these illustrations are the results of the author's own efforts, and the arrangement of the likenesses of the various eruptions is such as to afford the greatest facility for clinical comparison at a glance. Taking Plate vii for an example, we have here chromophotographs of the faces of four patients, showing respectively a papular syphilide, mullusum contagiosum, adenoma sebaceum and acne lupoid. Most of the colored pictures are well executed, but a good many of them seem to be too highly tinted. The atlas contains 312 chromophotographs on 91 plates, and 191 excellent half-tones.

The work is a purely clinical exposition of the subject, the author stating that he may publish a sequel to the book, devoted to therapy, in the near future. The atlas should be a highly useful addition to the library of the practicing dermatologist, but can hardly be recommended to those who have no previous well-grounded knowledge of dermatology. The binding, paper and type are beyond criticism.

F. W.

LEHRBUCH DER HAUT-UND GESCHLECHTSKRANKHEITEN, EINSCHLIESSLICH DER KOSMETIK. I. BAND: HAUTLEIDEN UND KOSMETIK. Von Sanitätsrat Dr. S. JESSNER. Vierte sehr erweiterte Auflage. Mit 33 Abbildungen auf 31 farbigen Tafeln und 7 Abbildungen im Text. *Curt Kabitzsch*, Würzburg, 1913.

As the title indicates, this is a text-book of skin and sexual diseases, the first volume being devoted to cutaneous disorders and to cosmetics. As delivered to the editor, the book appears in four paper-bound sections, each section containing approximately one hundred pages. The book differs from other text-books in the arrangement and grouping of cutaneous disorders. Jessner has worked out a system of his own, based on Hebra's system, published in 1844, and conforming to the pathologic-anatomical classification of skin diseases. He divides the subject into seven classes. 1, Disturbances of function. 2, Anomalies of blood distribution (without inflammatory manifestations). 3, Inflammations. 4, Granulomata. 5, Hypertrophies. 6, New growths. 7, Regressive disturbances of nutrition. Each of these classes is subdivided so as to include all cutaneous manifestations under their respective headings. The subject of syphilis is relegated to the second volume, devoted to "sexual" diseases, and including syphilis, gonorrhœa and ulcus molle.

For a text-book of its size, the work deserves only praise, for the subject-matter is treated lucidly, concisely and yet completely; a large part of it is devoted to therapy, including the modern hydro, thermo, electro and phototherapeutic measures. The last twenty pages deal interestingly with the subject of cosmetics. The volume contains twenty-seven very fine reproductions of moulages and six colored histological drawings.

F. W.

## NOTICE.

## SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE will be held in London, England, from the 6th to the 12th of August, 1913.

An exceedingly attractive program has been prepared by the officers of the Section on Dermatology and Syphilology, and our English colleagues have been working hard for a long time in order to obtain material for an unusual clinical demonstration.

To become a member of the Congress a money order for 20 shillings (\$5.00) should be sent to "The Treasurers of the Seventeenth International Congress of Medicine, 13 Hinde St., London, W." This should be accompanied by the full name and address of the individual and a request to be registered in the Dermatological Section.

For those who anticipate attending the Congress this registration will be advantageous, as a rebate can then be obtained on the passage from the United States to England. Those who do not intend visiting London will, by becoming a member, receive the printed Transactions of the Congress.

The wives and daughters of the members of the Congress can register by forwarding the sum of 10 shillings. This will assure them of the advantages to be obtained through the various entertainment committees.

Dr. Howard Fox will prepare for THE JOURNAL an account of the details of the Congress that are of dermatological interest.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

JULY, 1913

NO. 7

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## EDITORIAL.

### THE SELF-STYLED "HAIR SPECIALIST."

THE great amount of attention given by women, both rich and poor, and by some men, to the care of the hair, has created a demand for workers to give such care. To meet this demand a vast horde of women and a few men have swept down on the community styling themselves "Hair Specialists."

Some of these people are absolutely ignorant; some have picked up some information from experienced workers, or in certain "schools" established for the purpose of teaching the care of the hair; and some few have a little scientific knowledge derived from the study of books. All of them are lawbreakers, many of them ignorantly, because they treat diseases without a license.

It is hard to understand why a druggist, who often is well versed in the actions and uses of drugs, and the medical quack are liable to arrest and fines for prescribing treatment for diseases, while these "Hair Specialists" are allowed to go on their more or less harmful way entirely unmolested.

If "Hair Parlors" and their attendants existed only for the shampooing and dressing of the hair, it would be bad enough, because such places, on account of a lack of hygienic regulations, tend to spread diseases of the scalp, like the barber shops do. But their proprietors claim to have a peculiar knowledge of the hair (it is often most peculiar) and to be able to *cure* all its diseases. To this end some of them apply strong acid preparations that set up violent inflammation of the scalp; massage more or less violently every scalp no matter what the condition of it may be, and thereby do damage to many a patient; singe the ends of the hair, a perfectly silly procedure; wash the hair with sponges and then dry it with a hot air blast so as to hurry the drying and get in another

victim. These are a few of the harmful acts they do because they know no better and are anxious for money.

The wrong information they give their dupes and the false ideas they spread are surprising. Still more surprising is the gullibility of those who go to them. The latter will willingly pay over large sums of money for simple solutions of soap, and for lotions, which they are told contain rare and expensive ingredients, the profit on which swells the bank accounts of the venders. These people do not appreciate that constitutional conditions of the patient often cause loss of hair and until the former is improved the latter cannot be. It is a fraud for anyone to presume to treat the diseases of the hair without a knowledge of general medicine.

The medical profession is largely responsible for the existence of these quacks, because it has thought it to be below its dignity to have anything to do with the hair. Doctors forget that it is a grievous thing for a woman to lose her hair. If they would remember this and refer their patients to some regular physician who knows something about the care of the hair, in case they do not desire to inform themselves, they would do much to lessen the number of "Beauty Parlors" and "Hair Parlors," two evils with which we are cursed.

These remarks are not meant to reflect upon the goodly number of respectable women who earn a living by washing the scalp and applying ointments and lotions to it, or massaging it under a physician's directions. They are like trained nurses, most useful, almost indispensable aids to the doctor, and worthy of all encouragement.

GEORGE T. JACKSON.

THE THIRTY-SEVENTH ANNUAL MEETING  
OF THE  
AMERICAN DERMATOLOGICAL ASSOCIATION.

(Washington, D. C., May 6-7-8, 1913).

PRESIDENTIAL ADDRESS.

THE BORDERLAND OF DERMATOLOGY.]

By ISADORE DYER, PH.B., M.D., New Orleans.

Professor of Diseases of the Skin, and Dean, Tulane University of  
Louisiana School of Medicine.

FOR the average medical practitioner, dermatology is an unknown country. The rumor of its purviews reaches him during his student days when, for a more or less brief period, he is permitted to sit under a teacher who is limited to such an extent in his privileges that only the high places may be touched in a hurried course, interesting enough to excite wonder and surprise that such a field should exist at all and superficial enough to be forgotten as soon as the examination time has passed.

With the practitioner, the scope of skin diseases is indeed limited to a few terms which have survived in the crowd of pabula furnished in the general medical course and the text on skin diseases is in a very large degree a foreign language. Even where practical post-graduate courses are afforded, the subject of skin diseases is by no means popular and the evidence of the ignorance of most medical men is every day a matter of demonstration in the office of the specialist in dermatology. The layman is worse off, in that he builds horrible pictures of a few skin diseases whose names become common through the newspaper advertisements of patent medicines, and the popular impression still prevails that skin diseases are products of the wild gardens of filth and vice.

Meantime the guild of dermatologists has grown more and more respectable and respected and an academic virtue is at least credited those who have been honest enough to have impressed the general rank and file of physicians with the idea that there is more in dermatology than cosmetics and eczema.

No special field of study affords more opportunities for original research and among the mass of diseases grouped in cutaneous

manifestations there are many which are still set aside for future discovery, ætiologically and pathologically.

There is no field of medicine or surgery which does not touch the confines of dermatology, and as the years go by the importance of the subject grows, and even those who spend all their time in cutaneous medicine and surgery find new problems for solution.

While the investigation of cancer is going on, conducted by the surgeon, pathologist, physiologist and even the chemist, the local manifestations sooner or later gravitate to a dermatological basis and the degree of the evidences determines the relation of the dermatologist. Whether the carbon derivatives of chimney soot may come to be accepted as a chemic cause of cancer, or the organic bodies derived from laboratory growth of cancer tissue be found a factor, the fact remains that the course and history of the disease in the skin, at least, must be objects of investigation by the dermatologist. More than this, his is the economic function to study cancer incidence and the sociologic importance of the disease as it relates to community life, and in the end he must begin the educational propaganda which must make for the early recognition, care and cure of this disease. There are diseases more fatal than cancer, if all early cases are counted in the statistics, and if the public and the profession were made to learn the dangers of keratinous growths and of seborrhœal patches in those of middle age and advancing years, much more hopeful would be the prospect for cancer cure.

Among the notable advances in preventive medicine in recent years has been the publicity movement in cancer education, and the first evidences have come from the surgeons and the gynæcologists, but there is surely a very large place for the dermatologist in this work.

Much progress has been made in the study of the ductless glands. Their correlation seems certain, and in the study of their functions there is already large evidence of the relation of the skin in a most important way, not only in functional evidences of disturbance but in structural changes.

The acromegalic changes in all tissues related to the pituitary body include the hyperplasia of the skin, too, and the pigmentary and pachydermic evidences in the diseases related to the thyroid and the adrenals urge a constant consideration of the skin.

Pigmentary changes of the skin are in themselves worthy of large study and we are just beginning to think of their importance. Formerly, the simple blemishes of the skin had no significance, but

as they are brought in differential contrast with the large assortment of truly morbid pigmentary changes in the skin, the importance grows.

The stains following the parasitic diseases, the hyperpigmentation signalizing malignant growths, the changing color with deepening pigment in acanthosis, all point to a deeper significance of pigmentary evidences than formerly attached.

The constant pigment expressions in syphilis suggest the speculative proposition of some affinity of the organisms of this disease with the hæmic contents of the blood and the variety of pigmentary signs in syphilis offers a field for study.

The ancient vitiligo (and leucoderma) afforded formerly only a clinic interest through its apparent anomaly; now, we may seriously question the possibility of pathological significance, through some connection with leukæmia, and now and then these apparently simple atrophic changes go on to the evidence of association with the thyroid or with true anæmia; in some cases ending in Hodgkin's or Graves' disease.

The stains in leprosy, the pigmentary lesions in chronic dermatoneuroses may have no deep meaning, but they still suggest that of other pigmentary evidences more profound in origin. Here, too, there may be some association, all of which may in time touch the possibility of therapeutic relief in these pigment changes, at times baffling the resources of the dermatologist.

With the introduction of antitoxine methods, and with the growth of such a diversified lot of sera and vaccines, there have come in the train of this newer therapy the accidents of toxic origin and in the study of the toxic eruptions following sera, we must soon make a new group of skin affections, placing them among some present division with a new outlook, or else correlating all the anaphylactic accidents of the skin and making a group apart. For, indeed, there have arisen erythemas, urticarias, pustular dermatitides, hæmorrhages and necroses, which have followed serum and vaccine treatment, differing in their many phases so as to present entirely new and diverse forms.

With the experimentation in organotherapy, vaccines and the like, there is bound to be some degree of accident until the whole matter is adjusted to a basis of knowledge and the jangled nervous apparatus, set out of tune by various powerful measures, must find expression.

How can it be otherwise, when such assorted conditions as erythema multiforme, herpetiform dermatitis and pellagra, arise

from some toxæmia, of unknown origin in most cases, but having enough in common to argue the influence of a toxic cause?

The dermatologist has these problems to solve, for no matter how thoroughly the laboratory man may study the excretions and the histology of the lesions, the clinical picture offers much more in the real application of deductive logic.

The many manifestations of diseases of the skin touch the everyday life of the community, and the dermatologist must come to the aid of the economic administration of the school, of the hospital, of institutions, in recognizing contagious diseases and in preaching the doctrine of prevention so far as these are concerned.

His field covers the common parasitic diseases found in schools and in asylums and in institutions for the criminal and the poor.

Education in syphilis is the most crying need of the day. The layman has a far better knowledge of notorious remedies for syphilis than he has for its prevention and it is mere prudery to keep out of print the knowledge of syphilis and its consequences. Every now and then there is some academic article in the periodic press, but the dermatologist has the task before him to essay a large education of the public. Hospitals for syphilis, or hospital provision for syphilis should be demanded everywhere. No disease occupies the same place as syphilis in all of the economic phases of society. Its evils touch the social life of all communities; no court of justice escapes its criminologic side and the psychologic study of the child to-day points more than ever to the importance of this factor. The insane asylums, the institutions for the feeble minded and for defectives of all sorts owe a considerable part of their existence to neglected syphilis.

There is a great moral movement throughout this country, aiming at the social evil, but this is only one step in sanitary improvement; syphilis should be as commonly known and apprehended as measles or chicken-pox.

Boards of health are undertaking institutes of hygiene for public education, and with these our dermatologists should be associated for plain, straightforward expressions on the evils of this disease.

The life insurance companies have done much to make syphilis better known and their work still goes on, but the education should be widespread.

The field of cutaneous medicine grows all the time and with the increased knowledge among ourselves, there must come the desire to make the study of skin diseases more general. Occasionally the dermatologist writes a text-book, or presents general papers for the



average reader, but schools of dermatology need to develop so that the future physician may know more of the subject. The flora of dermatology is as varied as it is remarkable and interesting and the future of its possibilities is difficult to prophesy.

More time is needed in the curriculum in schools of medicine for the exposition of the subject, and this may be accomplished only by making the practise of dermatology so important that the demand will create the supply of needed hours.

The borderland of dermatology touches every phase of practice and the neurologist as well as the forensic expert need us now and then to clear up evidences of obscurer types. Malingerers create extraordinary evidences of disease, hysteric at times, but often of profound basic origin, demanding as much care in diagnosis and in treatment as any other psychic or psychiatric condition.

Even now, in this enlightened century, we are still at the beginning of our labor, and as yet no great laboratories for dermatologic research have grown in our country. True, there are at least two special hospitals for the study of skin diseases, but one of these has marked time for nearly half a century, while the other one has struggled into a great usefulness which promises much for the future.

Our Association has set standards for the men engaged in dermatology, but each of us has worked singly, without any coherent aim at great problems. Those problems are at hand and if the future can mean anything we should organize so as to undertake them, instead of leaving the opportunities in the borderland to men of other fields, who often are caught in the tangle of obscured problems, which might be simple of solution to the willing dermatologist.

There may seem much of platitude in the discursive remarks in this address, but the motive cannot be misunderstood. Our field lies in the practical relation to human ills and the demand is for expert service; as we advance in our own knowledge, the public (meaning the rest of the profession, as well) should share the progress until the dermatologist may be accredited as a large factor in the community rather than as a more or less superfluous appendix.

In the meantime our Association has not been idle. The compilation of the work of the membership of this Association shows that since the last meeting eighty-four articles of various dermatologic importance have been contributed by thirty-seven members. The range of subjects is large, with a preponderance in the newer therapy of arsenic for syphilis, though this subject has, as well, received considerable attention from economic points of view.

Boards of health everywhere are engaging in the study of disease problems and hereafter our field should cover this phase as well.

The work of the Association should be coördinated in the various sections of the country and the recent excellent clinical meetings in New York, Philadelphia, St. Louis and Chicago should be carried to other cities, not only with the object of bringing the Association to its membership in those cities, but with a more important object of creating a wider general interest in our field.

THE JOURNAL should come more directly under the influence of the Association itself, with a view to making it not only the academic expression and exponent of dermatology but, at the same time, a means of educating the profession generally. Practical dermatology should be featured along with the more advanced discussions and the experimental scope of dermatologic methods should be accompanied by the review of accepted practises.

The American Dermatological Association has fulfilled the objects of its organization in creating a group of earnest workers engaged in advancing the art and science of a special field; it should now fill a much-needed place in the general education of the profession and of the public in those phases of its work in which a truly humanitarian purpose may be attained.

It has been a high privilege to have occupied the leadership of this Association during the past year and the honor has been appreciated deeply by your servant.

It has meant a fresh incentive to labor in a chosen field and if, in laying down the tokens of office, a spirit of continued effort may rest with each and all, I shall feel that the honors have not been entirely empty.

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## THE SO-CALLED IMPORTANT DRUGS USED IN DERMATOLOGY.

By M. L. RAVITCH, M.A., M.D., Louisville, Ky.

IN discussing the paper of Dr. O. H. Foerster on "An Inquiry into the Efficiency of Sulphur Lotions," Dr. Winfield sounded the true keynote when he said that dermatologists have neglected to contribute to dermatological therapeutics, while many papers were written on the aetiology and pathology of skin diseases.

In this short paper I will try to contribute a few brief remarks

on certain drugs that are being used in the therapy of the skin. Long dissertations on the therapeutic value of drugs for diseases, the ætiology of which, in the majority of cases, is obscure, would be purely speculative and empirical. No drug can be of real value until we not only have learned its chemical composition, but also have studied the chemistry of the skin, as well as the changes in the chemistry as influenced by diet and drugs and by external irritants. We must also remember that drugs, as ordinarily applied to the skin in the form of lotions, ointments, liniments, pastes and powders, are very little absorbed by it, and merely act locally as protectives, emollients, stimulants, germicides or caustic agents. The skin is purely an excretory organ and has very little power of absorption.

While the paper on "Inquiry into the Efficiency of Sulphur Lotions" is an exceptionally admirable one, yet it is based purely on theory and is rather speculative. We have outlived the age of speculative medicine. The less one speculates about a drug, the fewer will be the imaginative cures. Every text-book is reeking with remedies that are, with very few exceptions, absolutely useless. There are very few drugs that are really useful and I will endeavor to mention the few that we use on account of their real, partial and, at times, imaginary usefulness.

**ACETONE**  $C_3H_6O$  (Di-methyl-ketone). No chemical change takes place in acetone when used externally. It is a splendid adjunct in treating inoperable, bleeding carcinomata. It not only hardens the tissues, thereby stopping the bleeding, but, by preventing disintegration of the tissues, it diminishes the fœter. It is a powerful deodorant.

**ACID CARBOLIC** ( $C_6H_5OH$ ). Carbolic acid is a general protoplasm poison. Applied to the skin, it coagulates its protein. It forms a white, opaque scar. It creates a tingling, a feeling of warmth, shrinkage of the epidermis and a mild anæsthesia. To the last it owes its antipruritic virtue. It is inferior, however, to the cocaine series. In dilute solutions it should not be applied to large areas, for fear of absorption. Painted over small patches of leucoderma, pure carbolic acid has given, in some cases, good results. Similar results are obtained in lupus. Sherwell's treatment of nævi consisted in tattooing them with needles dipped in a 50% solution of phenol, afterward cleansing the surface with alcohol and finally applying a layer of collodion. The results in some cases were excellent. Increasing doses of phenol in sherry wine was warmly advocated in psoriasis, but, as other overrated medicines, it has utterly failed.

**ACID HYDROCHLORIC** (HCl). This acid is caustic when applied to the skin. When taken internally in concentrated form, it causes a whitening of the mucous membranes and corrosion. It will combine with the mineral elements of the body, such as potassium, sodium, calcium, magnesium, etc. In dilute solutions it has given me splendid results in eczematous conditions due to gout. It must not be forgotten that the drug should be given in very large doses. Two cases of inveterate psoriasis were greatly benefited by 60 drops dosage of the dilute acid from four to six times a day.

**ACID NITRIC ( $\text{HNO}_3$ ).** Outside of its caustic properties, nitric acid has very little therapeutic value in dermatology. Internally, it has been given in dilute solutions, but as it is far inferior to hydrochloric acid, I fail to see why it should be used.

**ALCOHOL ( $\text{C}_2\text{H}_5\text{OH}$ ).** Externally, alcohol acts as an antiseptic, best in a strength of 70%; when applied to the skin and mucous surface in its concentrated form, it causes a burning sensation, with blanching and corrugation of the tissue. No chemical change takes place in alcohol when applied externally, except possibly in a weak, chemical combination with albumin. Every dermatologist reports success with alcohol when combined with other drugs. But I have never seen the wonderful results of alcohol in erysipelas, zoster and erythema, as reported by some German and French investigators. According to Trimble, alcohol facilitates bleeding of a punctured skin.

**ALUMINUM ACETO-TARTRATE.** This combination has no definite chemical formula. It is a compound usually having the following percentage composition:  $\text{Al}_2\text{O}_3$ , 23.67%, acetic anhydride, 30.77%, tartaric acid, 27.17%, water, 18.08%. The salt is used in aqueous solution, as a non-toxic, antiseptic astringent, or mixed with twice its weight of boric acid, as a dusting powder. The aluminum is precipitated as an aluminate when applied to the skin or mucous membranes. It has no advantage over Burrow's solution. In moist eczemas, Burrow's solution is superior to the aluminum aceto-tartar solution of Lewitt. I have used the cream of aluminum aceto-tartar of Lewitt (also ointment) and found it inferior to medicated Lassar's paste in troublesome itching, in intertrigo, moist dermatitis and acute eczema and burns.

**ARGENTUM NITRATIS ( $\text{AgNO}_3$ ).** As a caustic, silver nitrate is far inferior to many more active caustics. Lunar caustic (one part of silver and two parts of potassium nitrate) should be used with caution. In solutions, preferably in sweet spirits of niter, as advocated by Crocker, it is a very fine preparation. It is useful in mouth lesions, in fissures, particularly in the anus, and in stubborn cases of pruritus scroti and ani. In eczema of the toes and fingers, it is a very useful application.

**ARSENIC ( $\text{AsO}_3$ ).** Very little chemical change takes place when arsenic is applied externally or taken internally. It cannot elicit typical corrosion. Unlike acid alkalies, it forms no combination with the tissues. The action of arsenic on the blood is still obscure. Traces are eliminated in the skin secretions, in the hair and in the milk. Arsenic has been indiscriminately and habitually used in the form of arsenous acid, sodium arsenite and Fowler's solution, by the laity, general practitioners and dermatologists for almost all skin diseases, externally and internally. The drug has lately been abandoned for sodium cacodylate, of which I will speak later in this paper.

**ATROPINE ( $\text{C}_{17}\text{H}_{23}\text{NO}_3$ ).** Atropine is excreted in man to a small extent in the urine, the greater portion being completely oxidized in the tissues. I have never seen real ill-results from larger doses than were usually given. In rosacea, due to gastric excitability, atropine is far superior to the bromides. The latter seems, at times, to aggravate the trouble. Since patients with rosacea often suffer with hyperchlorhydria, atropine seems to be the ideal remedy, as it certainly reduces the secretion of hydrochloric acid. Atropine in combination with calcium lactate is an ideal remedy in urticaria. It is useful in erysipelas, scarlet fever and the erythemas because it increases the antitoxic properties of the blood.

**BETANAPHTOL ( $\text{C}_{10}\text{H}_7\text{OH}$ ).** There is no evidence of any chemical change taking place in betanaphthol when used externally. This drug should be used with caution. I have lately had a case of pityriasis rubra most assuredly due to the reckless use of betanaphthol. It is a splendid antiparasitic and antiseptic agent, but is inferior to bichloride of mercury.

**CACODYLATE OF SODA ( $\text{CH}_{32}\text{AsO}_2\text{Na}$ ).** Very little change seems to take place in sodium cacodylate when given internally, as it is excreted almost entirely in

an unchanged condition. A small portion of the substance seems to be reduced from the penta valent condition to the tri valent state, and as such, acts similarly to the ordinary form of arsenic. It is undoubtedly superior to any other form or arsenic. It has given me brilliant results in syphilis, pellagra, in eruptions due to malaria and also in some cases of psoriasis. Never give less than two-grain doses. I prefer hypodermic administration.

**CALCIUM CHLORIDE** ( $\text{CaCl}_2$ ). When taken internally, calcium chloride causes considerable gastro-intestinal inflammation and is supposed to be partly converted into the phosphate or carbonate in the intestines and partly combined with the albumin as an insoluble albuminate. Calcium chloride in aqueous solutions is not as effective as calcium lactate in obscure cases of pruritus and urticaria. It is a favorite remedy of the English dermatologists. I have never had any good results with it.

**CALCIUM LACTATE** ( $\text{Ca}(\text{C}_3\text{H}_5\text{O}_3)_2 \cdot 5\text{H}_2\text{O}$ ). This is about the most absorbable form of calcium. Very little is given concerning any chemical changes that it undergoes when taken internally; however, they are doubtless similar to that of the chloride into which it must be largely changed in the stomach. Calcium lactate is of undoubted value in pruritic conditions, particularly due to urticaria and exudative erythema. It must be borne in mind that only large doses do effective work. I have given as high as thirty grains at a dose four times a day. The drug should be taken for three days and then rest for a day or two, when it can be renewed in the same manner.

**CALCIUM SULPHIDE** ( $\text{CaS}$ ). The U. S. P. product is a mixture of sulphide with unreduced calcium sulphate and some carbon. When taken internally, it is broken up in the stomach into calcium chloride and hydrogen sulphide. Hydrogen sulphide has a decided irritant action in the stomach and intestines and when absorbed is rapidly oxidized to sulphates and organic sulphur compounds of unknown constitutions. Calcium sulphide is absolutely worthless in acne and other skin affections. It is really harmful. The reports of its great therapeutic value are simply myths.

**CAUSTICS.** Caustic potash, solid carbon dioxide, liquid air and monochloroacetic acid—these are the most important ones. Each of them has its advocates. Its value lies in the way it is used. One may get brilliant results from one remedy while the same remedy may prove a failure in the hands of another.

**CHLORAL HYDRATE** ( $\text{CCl}_3\text{COH} + \text{H}_2\text{O}$ ). It is not known just what chemical change, if any, takes place in chloral when applied to the skin, the aim being to produce redness when applied to the unbroken skin, and it is very irritating to the denuded surface. I have never seen any good result from this drug. In diseases of the hair, chloral hydrate, as most of the drugs used for that purpose, gives only imaginary results. We use this drug because we do not know what else to use.

**CHRYSAROBIN** ( $\text{C}_{30}\text{H}_{26}\text{O}_7$ ). When applied to the skin, chrysarobin changes to oxychrysarobin, a change due to the normal presence of oleic acid in the skin. It is a very drastic remedy and should be used with caution. Some skins show a pronounced idiosyncrasy to it. It is not a specific for psoriasis and taking into consideration its troublesome by-effects, its use should be abandoned.

**FIBROLYSIN.** This is a compound consisting of two molecules of thiosin-amin ( $\text{CSNH}_2\text{NHC}_8\text{H}_5$ ) and one molecule of sodium salicylate ( $\text{NaC}_7\text{H}_5\text{O}_2$ ). This preparation is soluble in water and can be injected subcutaneously without producing the intense pain caused by the alcohol solution of thiosinamin. It is not known that any chemical change takes place in fibrolysin, either externally or internally, beyond the breaking up of the sodium salicylate in the stomach, into sodium chloride and free salicylic acid, by the gastric juices. Nothing is known of the fate of thiosinamin in the system. Whether it is due to the antiseptic, eliminative and solvent properties of salicylic acid alone or some unknown action of the thiosinamin, this compound has given fairly good results in erythema no-

dosum, tuberculides and lupus. From six to twenty intramuscular injections were required in some cases. This remedy gives fair results in scars, particularly when iodine is used as an external application.

**GLYCERINE** ( $C_3H_5(OH)_3$ ). When applied to the skin in concentrated form, glycerine abstracts water from the skin and acts as an irritant. But the irritation soon subsides and it acts, then, as a protective. It is used in combination with alcohol as a lotion for chapped hands. Its emollient properties are not as good as oils. When taken internally, it is mostly oxidized. However, in very large quantities, it acts as a poison.

**GUAIACOL** ( $C_6H_4(OH)OCH_3$ ). When applied to the skin, guaiacol produces redness and local anæsthesia. No evidence of any chemical change when used externally. I have found it very useful in pernio and frost-bites.

**GUAIACOL CARBONATE** ( $C_5H_4OCH_3CO_2$ ). The carbonate is decomposed in the intestines into guaiacol, which is absorbed and excreted in the urine in combination with sulphuric and glycuronic acids. It is a splendid remedy when combined with calomel and given to children with facial eczema, due to intestinal troubles. It can be given for a long time without any ill effect.

**ICHTHYOL**. The constitution of ichthyol is still doubtful and it appears to be a mixture of a number of bodies. It has a high percentage of sulphur. Ichthyol is supposed to possess antiseptic properties and it is noted for its vasoconstrictive effects. The claim that ichthyol acts as a stimulant, increasing the gastric secretion, improving the appetite and promoting the assimilation of food, is really ridiculous. I have never found the wonderful results claimed by Bruch in furunculosis, or by Dreuw in acute and chronic eczemas. True, it was our ideal remedy for erysipelas, because we did not try any other remedy; but since erysipelas is a self-limited disease, any mild antiseptic application will answer the same purpose, without resorting to this ill-smelling and sticky application.

**IODINE (I)**. Iodine acts as a slight irritant, but when the application is repeated, the superficial structures only, undergo a process of active inflammation. A definite proportion of iodine is absorbed by the skin. Its field of usefulness is very great. In erysipelas and pyoderma it is an admirable remedy when used judiciously and cautiously. Iodine and its salts have been used extensively, internally, in many skin diseases, particularly in syphilis, tuberculosis and mycotic affections. It is eliminated by the kidneys and tends to irritate these organs. I could never understand its use in psoriasis.

**MAGNESIUM SULPHATE** ( $Mg_4+7H_2O$ ). Externally, no chemical change takes place; internally, it is excreted unchanged by the bowels, some escaping through the kidneys. I have not seen any wonderful results from applications of saturated solutions of the drug in erysipelas and eczema as were lately reported by some authors. The claim that magnesium sulphate has radioactive properties is ridiculous.

**MERCURY BICHLORIDE** ( $HgCl_2$ ). When this drug is applied to the skin or mucous membranes, in solution, the mercury is precipitated as the albuminate and has a very strong antiseptic action. When applied in solid form, it acts as a caustic. When applied in a comparatively strong solution to the skin, it causes the outer layer to die and peel off and for that reason is often used in "beauty preparations" to remove tan, freckles, moles, etc. In mild solutions it has antipruritic properties. On the other hand, in the mildest solutions, it has caused a dermatitis. Besides mercury bichloride, ammoniated mercury, mild chloride of mercury and yellow oxide, have also been successfully used externally, in parasitic and specific dermatoses. Mercury and chalk, mercury salicylate, mercury biniodide and succinimide, have been successfully used internally in syphilitic dermatoses. When used by the mouth or by injection, they cause the blood to become bacteriolytic and antitoxic by provoking the formation and accumulation therein of more or less antitoxic agents. Mercury is able to raise the activity of metabolism and the blood supply. It is taken up by the leucocytes and carried

to all tissues. Acid nitrate of mercury has been successfully used by Sherwell and others in the treatment of epithelioma. As a destructive agent it acts the same as nitric acid, and there is very little difference in its chemical composition.

**PILOCARPINE HYDROCHLORATE** ( $C_{11}H_{16}N_2C_2HCl$ ). This drug undergoes no chemical change when used externally. As in the case of chloral hydrate, its value in alopecia is purely imaginary.

**PYROGALLOL** ( $C_6H_3(CH_3)_3$ ). Pyrogallol is of value only from its reducing action, depriving the superficial structures of their oxygen. It possesses very little antiseptic properties. It was introduced as a remedy for psoriasis and lupus by Jarisch in 1878. Besnier has used pyrogallol in saturated solution on lupus with good results. Brock prefers a mixture of pyrogallic and salicylic acids. As with carbolic acid, it is necessary to keep a close watch on the urine of the patient to prevent absorption. In small epitheliomata it has given me good results.

**QUININE** (Alkaloid) ( $C_{20}H_{24}N_2O_2 \cdot 3H_2O$ ). No chemical change is known to occur when quinine is used externally, except possibly to combine to a limited extent with the acids of the skin. Internally, it is absorbed and completely oxidized by the tissues of the body, only a very small amount being excreted by the kidneys. It undoubtedly has radioactive properties and is very useful in grave cases of pityriasis rubra, in obscure cases of pruritus and exanthema. I have never seen injurious action in the blood, which, some claim, follow quinine treatment. Its therapeutic value in alopecia is imaginary.

**RESORCIN** ( $C_6H_4(OH)_2$ ). Applied to the skin, resorcin is supposed to possess antiseptic properties and does not irritate the unbroken skin and is not believed to be absorbed. It is not believed to undergo any chemical change when used externally. Its therapeutic value in dermatoses is great, particularly in seborrhœic conditions. It also possesses keratolytic qualities similar to salicylic acid.

**SALICYLIC ACID** ( $HC_7H_5O_3$ ). Externally, salicylic acid acts as an irritant, but it is not believed to undergo any chemical change. Its antipruritic and keratolytic qualities are too well known to be repeated. It is more useful and far superior to chrysarobin in psoriasis. Salicylates, besides acting as an analgesic in erythema nodosum and erythema multiforme, prove curative, since they not only decrease the volume of blood circulating in the nerves of the painful regions, but they also promote metabolism and the destruction of the pathogenic element. Maragliano showed, by plethysmographic measurements, that the vessels are dilated by salicylic acid in the same way as by antipyretics and cause perspiration, but the latter action is to be ascribed to increased activity of the sweat centres.

**SALICIN** ( $C_{13}H_{18}O_7$ ). Salicin is a glycoside found in many species of willow and poplar. When administered by the mouth, it is excreted in the urine partly as a salicin, partly saligenin or salicyl alcohol, and partly as salicylic and salicyluric acids. It has been successfully used by Crocker in psoriasis, but I have never had any good results from its use.

**SALVARSAN**. This wonderful preparation of Ehrlich's has aroused more interest and comment than any therapeutical agent that has ever been brought before the profession. It drew even more exchange of experiences and opinions than tuberculin. Undoubtedly it is a great remedy for primary syphilis, when combined with mercury and iodine preparations. In secondary and tertiary syphilis, its specificity is rather doubtful. This great remedy has been tried in leprosy, pemphigus, sleeping sickness, kala-azar, tertian malaria, framboesia and pellagra, but the reports are rather exaggerated and unreliable. The real status of this great remedy has not yet been established and it should be used cautiously, as disastrous results have been encountered by many experimenters.

**STRYCHNINE**. In small doses, by increasing the oxygenizing property of the blood and simultaneously the vascular tone, strychnine enhances general metabolism and nutrition in all organs.

**SULPHUR (S).** Externally used, sulphur is not supposed to undergo any chemical change, except, perhaps, a slight oxidation; internally, it is converted into sulphides by the alkaline intestinal juices. It is a very good mild antiseptic, but this remedy was greatly overestimated. It was regarded by the laity as a panacea for all skin diseases. I have never seen any good results from its internal use, except for its slight laxative properties.

**SULPHURETTED POTASSIUM.** This is a mixture of polysulphides, thiosulphate and sulphate of potassium. Externally, a solution of sulphuretted potash would be liable to suffer oxidation from the oxygen of the air and to precipitate sulphur by the absorption of carbon dioxide. It possesses very little therapeutic value, as it does not keep long. Its antiseptic qualities are of doubtful value. We use it in *lotio alba* from mere habit.

**TAR.** Whether in the form of *pix liquida*, *oleum rusci* or *liquor carbonis detergens*, tar is a very disagreeable, irritating and antediluvian remedy. It may be a great disinfectant, but its use as an external application for the skin should not be encouraged. It undoubtedly does more harm than good to the skin. It should be used with caution, as often absorption occurs, as seen by the dark color of the urine.

**THYROID EXTRACT** (no chemical formula). Very little is known concerning the composition of thyroid extract, beyond the fact that it contains iodine in organic combination and that it is a normal constituent of the body. It is not known just what happens to it when taken internally. It has some therapeutic value in urticaria and rosacea due to rose and hay fever. I never had any success with it in psoriasis, though Dr. Bramwell praises it very highly. It must be used with caution.

**ZINC** (Acetate, Sulphate, Oxide, Stearate). Zinc has very little value as an antiseptic. It is a mild astringent and is used as a protective in the form of salves, solutions and dusting powders. Zinc chloride is a powerful caustic and should seldom be used, as we have more effective and less destructive caustic agents in our *Pharmacopœia*.

## ADHESIVE PLASTER AS A DIRECT DRESSING IN THE TREATMENT OF WOUNDS, ULCERS AND INFEC- TIVE CONDITIONS: ITS FULFILLMENT OF THE BIER AND WRIGHT PRINCIPLES.

By M. B. HUTCHINS, M.D., Atlanta.

**I** HAVE previously reported on this method of treatment (*Med. Jour.*, New York, Feb. 22, 1902 and Oct. 5, 1907). As probably less irritating and certainly of better quality, the zinc oxide adhesive plaster has been employed. Just how much the metal has had to do with the sterilization of infected lesions is a question and whether the zinc has any electric (ionic) effect may be considered.

Benzine,\* because of its cleansing effect on the surrounding skin,

\* Gasoline is irritating and ether offensive to those who have been anaesthetised by it.



its solvent action on the rubber adhesive and its antiseptic power, has been used in preparing the skin for the dressings and to aid in the removal of former applications. The plaster applied over eschars from caustics and renewed frequently enough to keep the lesion air-tight, acts as a sterile poultice, hastening the separation of dead tissue. Its serotactic action and prevention of drying favor the formation of new granulation tissue and hastens epidermization in the final, clean wound. The whole area covered by the plaster usually shows œdema—thus following the principle of Bier's *Stauungs Hyperemie*.

A purulent lesion, having been cleansed properly, is dressed air-tight with strips of adhesive, direct—if there is not much fluid—or with a little cotton to absorb any excess exudation and to prevent the discharge raising the plaster sufficiently to admit air. It is the rule to find the lesion free of pus on the second or third day, excess of serum present and good granulations forming. The cocci seem to be ærobic, exclusion of air aiding in their destruction. The excess serum appears to bring with it a new army of antibodies (opsonins) so fulfilling the Wright principle. This method also replaces the wet dressing—retained serum taking the place of extraneous fluids. I have never seen a new pustule or furuncle develop under the adhesive plaster. It may appear startling to apply non-sterilized plaster off the roll, but it acts as well as the so-called sterile plaster. Fresh wounds, usually from blunt edges, on children's faces have been coapted (after cleansing) with the direct application of adhesive plaster so as to form an air-tight dressing. The healing was quick and the scar as small as would have followed stitching. Of course the dressing must be renewed daily.

I have frequently closed a gap, from defective catgut, in a portion of the skin wound following a major cancer operation, with the air-tight adhesive strips as the only dressing. No pus formed and the healing was perfect, all without the pain of stitching and its surgical technique. Indolent ulcers, with no tendency to granulate, begin to show vitality in a few days and often a dry dressing has to be alternated or substituted to prevent overgrowth of granulation tissue. So-called "proud flesh" (exuberent granulations), does not form in a dry wound, but develops in the presence of pus or serum, or under wet dressings.

This action has been taken advantage of in the adhesive dressing of pus cavities. They rapidly fill up—leaving no depression—as so often follows in the treatment of this condition by the usual methods. I never incise a furuncle or carbuncle, nor a subcutaneous abscess, unless there is no "point" or break. Then the incision is of

the smallest possible size, the pus is expressed and massage continued until serum or blood follows. This forces the entrance of the new antibodies.

An infection beginning in the root of a nasal hair (vibrissa), penetrated the cartilage and extended under the skin to the surface of the nasal bone and involved the cheek. This was drained externally and dressed with the adhesive plaster daily or bi-daily. Recovery was complete, without a noticeable scar, within a week.

A carbuncle infiltrating beneath the ligaments of the right knee and over the heads of the tibia and fibula was treated in the same manner and with a good result.

Illustrating the practical sterility of the adhesive plaster used to poultice dead tissue—in a few cases where the skin was leathery and of feeble vitality—it has been necessary to permit a little infection or attempt to hasten the separation of the eschar by some "digestive" substance, or even dissect out the eschar. These skins simply could not furnish enough lysins to remove their own dead elements.

Following the removal of a malignant growth from the left cheek of a man whose beard was of heavy development, saliva escaped from the mouth through the wound. The salivary duct had been left to drain into the oral cavity. The beard was kept as short as possible, without shaving, the leaks were treated daily with tincture of iodine, the skin sponged with benzine, the rubber side of the plaster softened with it and the air-tight effect thus obtained. The result was perfect.

A failure occurred in the case of numerous, deep sinuses in the gluteal and sacral regions. Cotton was covered with adhesive, but the dressing would not remain air-tight. The percentage of serum increased, however. Beck's paste and the adhesive plaster did no better. The patient ceased to come when strongly urged to submit to an extensive resection of the canals.

The dressings have to be kept hermetically sealed. When oozing lifts any edge and admits air, there must be a renewal, as the whole effect depends upon this air-tight principle. The rubber adhesive plaster has no reputation or vogue as a culture medium; any organisms adhering at the time of placing it on spools either die soon or yield readily to antibodies of the wound. Certain virulent strains of streptococci seem to be harder to kill in the lesion, as probably also are the pyocyaneus, but there always arises the question: did air get in, or was the opsonic action too weak? Guttapercha tissue, held in place by any method, irritates the skin, causes decomposition of fluids and does not carry out the principle. I do not employ any special make of adhesive plaster. The plaster from any reliable house will answer the purpose. It is best to use half inch to one inch width as pieces can be overlapped and shaped to the lesion. I employ the half inch exclusively.

## CLINICAL REPORT.

## DERMATITIS REPENS OF THE LOWER EXTREMITY.

By G. A. PUDOR, M.D., Portland.

THE patient was a woman, 65 years of age. The previous and family histories have no bearing on the present condition. In January, 1911, a slight injury to the left central, anterior tibial region was followed by "eczema." In August, 1911, an area two inches long was excised for "epithelioma." The deeper structures healed promptly, but the epithelial layers did not and there developed a superficial ulcerative condition that "resembled the previous lesion." In November, 1911, I received the patient on my service in the hospital.

At this time the leg showed an area of very superficial dermatitis about four inches in length and the same in breadth; the border was studded with vesicles and pustules, which ruptured in a few hours, leaving an oozing, reddened surface. Under starch powder dressings this surface dried in a few days, leaving a thin parchment epithelium. The process tended to recur and was most active near the margin. The process gradually advanced until the patient left the hospital in June, 1912.

The disease advanced about one half an inch monthly. It finally extended from the ankle to the knee and surrounded the leg. The old central portion became covered with very thin epithelium, which was red and glistening, but containing numerous new foci of disease. The border was slightly raised and was composed of vesicles and pustules that ruptured very easily, the walls being so thin. Some months later the patient wrote that she had practically recovered under the use of moist dressings of cream of tartar.

Treatment with autogenous staphylococcic vaccines caused a temporary cessation of the process; stock vaccines effected a complete involution that lasted a week. The disease, however, reappeared and was unaffected by either. Salves of any kind caused intolerable itching and a rapid increase in the number of active lesions. Antiseptic wet dressings were uncomfortable and did not stay the progress of the disease. On the whole, a moist dressing of  $\frac{1}{2}\%$  aluminium acetate, alternating every two days with a dry starch powder, gave most relief and the lesion advanced more slowly. X-rays had no effect.

The microscope showed the deeper layers of the skin to be unaffected. The blood-vessels of the papillæ were somewhat increased in size. The lower epithelial layers were œdematous and the granular layer markedly so. At the border of the lesion the horny layer could be seen cleaving off from the granular layer and in other areas it was completely separated to form a vesicle. One half an inch beyond the active border the skin was normal.

From the pustules was obtained an almost pure culture of the *Staphylococcus aureus*. The contents of the vesicles, if obtained early enough, were sterile. Mold or yeast fungi were absent.

The urine was normal as repeated examinations showed. There seemed a slight decrease in the hæmoglobin in the blood at times, but otherwise there was no change from the normal.

The disease, then, was a superficial dermatitis limited to the epithelium and most pronounced as an œdema of the granular layer. The gross manifestations were, originally, purely vesicular, the pustules were adventitious inoculations with staphylococci. The repeated and careful examination of the lesions, blood and excreta gives no clue to the cause. Perhaps "some nervous irritation" may help cover our ignorance. The disease was undoubtedly dermatitis repens (Crocker), but affecting the lower extremity instead of the upper.

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## DERMATOLOGICAL THERAPEUTICS

By

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### THE USE OF SULPHUR IN THE TREATMENT OF SYPHILIS.

WHILE salvarsan and neosalvarsan have proved to be remedies of truly remarkable action in the treatment of syphilis, the use of mercury for this disease is as universal as before the introduction of Ehrlich's preparations. I therefore believe that any measures which tend to make intense mercurial medication safer and more effective cannot fail to be of interest and value to our readers. In the following pages I shall endeavor to expose the value of sulphur and sulphur water as an adjuvant, eliminant and antidote for mercury.

Although there is little or nothing to be found on the subject in the medical literature of England and America, the use of sulphur in the treatment of syphilis has been discussed by many European writers during the last hundred years. That the subject is not a new one may be inferred from the fact that, according to Berton (*Les eaux sulfureuses dans le traitement de la syphilis, Thèse de Paris, 1906*), from the moment of the appearance of the disease in Europe, sulphur was used as treatment and its employment was

advised in 1535 by no less an authority than Fracastor. In the early part of the eighteenth century, the favorable action of waters of the various continental sulphur springs in the treatment of syphilis began to attract attention and soon resulted in bringing a host of visitors and prosperity to each of the better known resorts. While the use of salvarsan has undoubtedly caused a diminution in the number of syphilitics who go to sulphur watering places for treatment, these resorts are still popular with both the lay and medical public.

#### PHYSIOLOGY OF SULPHUR.

All animal cells contain a certain proportion of sulphur, which appears to be necessary to their growth and existence. Emery and Chatin (*La syphilis*, p. 369) state the average adult body contains 120 grams or twice as much sulphur by weight as the total amount of iron. According to H. Schulz (*Ueber Schwefel und Schwefelbäder*, *Deutsch. med. Ztg.*, 1896, No. 36) sulphur combines with water in the body, causing the liberation of nascent oxygen and is, therefore, very active and stimulating. The same writer states that sulphur plays a part similar to that of iron in the blood by carrying oxygen from the blood to the tissues. Hence changes in the proportion of sulphur in the tissues means changed metabolism, which the minute dosage of sulphur water is sufficient to render normal. Von Diesing (*Zur Theorie der Schwefelwirkung*, *Berl. klin. Wchnschr.*, No. 16, 1908) found that daily sulphur baths to dogs produced an increase of red blood corpuscles, which was then followed by a microscopic blood picture resembling that of leukaemia. He states that the action of sulphur on the blood is twofold; it combines with the active hæmoglobin of the red corpuscles and acts as a reductant to the used up hæmoglobin which is ready for elimination.

Emery and Chatin (*loc. cit.*) call attention to the fact that syphilis, in addition to its usual manifestations, is a general systemic intoxication, causing diminished nutrition, diminished elimination of urea and also a diminution in the number of red blood corpuscles and in the amount of hæmoglobin. Furthermore, syphilis produces a "demineralization" of the body as shown by increased elimination of chlorides, sodium, calcium, potassium and particularly sulphur. This diminishes the resistance of the patient to the disease. Mercury alone is capable of building up the body, but it is highly important that the administration of this drug be aided by the use of sulphur.

## THE USES OF SULPHUR IN THE TREATMENT OF SYPHILIS.

Before proceeding to a study of sulphur, and the sulphur springs and the use of sulphur in syphilis, the reader must clearly understand that sulphur has apparently no effect whatever upon syphilis when the drug is used without mercury. Sulphur and its product  $H_2S$  are merely adjuvants to mercury. When used as such, sulphur is said to act as:

1. An antidote in mercurial poisoning, both acute and chronic.
2. An assimulant and eliminant of mercury. Thus
3. Sulphur, it is claimed, intensifies the action of mercury.
4. It establishes a tolerance to the drug in patients with mercurial idiosyncrasy.
5. It cures mercurial habituation in patients who, after prolonged treatment, no longer react to the drug. Hence
6. It should be used as a routine after-treatment to follow the administration of mercury in all cases.
7. Sulphur and its products not only remove mercury from the tissues but are able to cause the disappearance of nodes due to encapsulated masses of the insoluble mercurial salts from intramuscular injections.
8. Sulphur when used in combination with mercury enables debilitated patients to undergo without injury a vigorous and effective course of mercurial treatment.
9. Sulphur establishes and increases a tolerance to the iodides.
10. Sulphur water internally and as baths acts brilliantly in syphilitic patients who also suffer from rheumatism or gout.
11. Sulphur by stimulating metabolism increases the resistance of the patient to syphilis, aids in the elimination of the products of the disease and increases the powers of assimilation of food.
12. Sulphur enables very large doses of mercury to be taken by the patient without danger of mercurial poisoning.

To illustrate the last point, Simon and Amneville (*Comment doit-on employer les eaux sulfureuses chez les syphilitiques*, *Journal des Practiciens*, 1912, p. 329) relate, among others, the case of a woman who, while taking sulphur water internally, could tolerate easily heavy doses of mercury as inunctions. She discontinued the sulphur water, unknown to her physician, and soon suffered from stomatitis and enteritis, both of which disappeared when the use of the sulphur water was resumed. Emery and Chatin (*La syphilis*, p. 369) state that mercurial stomatitis does not exist at sulphur watering places. They found that this complication, among the

patients of Gaucher's service at the hospital St. Louis, was cured by two glasses daily of Uriage sulphur water or a similar quantity of the sulphur water of the French Pharmacopœia (*Eau sulfureuse du Codex*).

Some syphilitics undergo a course of injections of the insoluble salts without improvement of their lesions and without the appearance of mercury in the urine. If these patients are then put through a course of sulphur water treatment (without further mercury) the urine is soon found to contain mercury and the specific lesions, which had previously resisted treatment, heal. In certain cases which have been reported, the solvent action of sulphur upon the mercury in the tissues has been so active as to produce a stomatitis. This action is referred to as the "massive discharge" of accumulated mercury.

#### THE ACTION OF SULPHUR IN SYPHILIS.

In examining the reports of advocates of the sulphur baths, it must be remembered that the simple change of scene, absence of worry, mental and physical rest, improved personal hygiene and devotion to treatment prescribed, are all factors which alone are capable of improving the general condition of the patient. Furthermore, the baths, when given properly, must exert a powerful and highly beneficial influence upon the organism through their effects as simple hydrotherapeutic measures. Thus the action of the sulphur element in thermal treatment may easily be overestimated and confused with that of the patient's more healthful existence. However, while a sojourn at almost any well-conducted watering place is capable of greatly improving the average syphilitic's condition, it is generally recognized that sulphur springs are peculiarly useful in this disease. To understand the reason for this, we must consider very briefly how sulphur acts.

#### ACTION OF SULPHUR UPON MERCURY IN THE BODY.

That sulphur given internally as the precipitate, as sulphur spring water or externally as baths, exercises a powerful chemical action upon mercury in the tissues may be regarded as a fact established by years of practical clinical observation and, more recently, by thorough and painstaking laboratory research work relating to the elimination of mercury by the urine and fæces. While the external valuable action of sulphur is undisputed, many of our

leading syphilologists differ as to the exact nature of its behavior toward mercury. The disputed point is this:

A. Do sulphur baths render mercury inactive and consequently harmless and without effect upon the human tissues by changing the mercury into the insoluble sulphide, or

B. Does sulphur increase the power of the blood to dissolve the albuminates of mercury found in the tissues and thus render the mercury more active toward the virus of syphilis, more easily eliminated and less toxic to the human organism.

A. The first view is advanced and supported by Professor Albert Neisser of Breslau and his scholar and chief of clinic, Professor Carl Bruck. Neisser believes (*Verhandl. d. Cong. f. inn. med.*, 1886; *Klinische Jahrbücher*, 1889; *Ztschr. f. prakt. Aerzte*, 1896; *Bäderbehandlung bei Syphilis*, *ebd.*, 1897, *Berl. klin. Wchnschr.*, 1897; *Die Einreibungskur*, *Volkmannshefte*, 1897, No. 190) sulphur baths constitute an excellent hygienic measure, the undoubted clinical value of which is due to simple hydrotherapy, but certainly not to the sulphur content of the spring water used in the baths. In other words, he believes that baths with ordinary water would be quite as valuable and even more so, because the sulphur in the sulphur baths acts to render inert and useless such mercury as is on or in the patient's skin as a result of the daily inunctions, by changing the very active metallic mercury into an inert and insoluble mercurial sulphide. Elsberg (*Wien. Klin.*, 1891) and others have endorsed Neisser's views. As opposed to the latter we find J. P. Grabowski (*Ueber der gleichzeitigen Gebrauch der Schwefelbäder und der Inunctionskur*, *Arch. f. Dermat.*, xxxi, 1895, p. 187) who claims that when sulphur baths are used daily during a course of mercurial inunctions, the following clinical advantages result:

1. The general condition of the patient is better.
2. The symptoms disappear more rapidly.
3. Relapses are rarer than without the use of sulphur baths.
4. Sulphur baths may therefore be regarded as a valuable adjuvant to our treatment.

In order to prove that sulphide of mercury is not inert as claimed by Neisser and others, Grabowski used an ointment of equal parts of the sulphide and unguentum simplex as inunctions upon several syphilitic patients who had been taking mercury without effect. As a result, the specific lesions disappeared, mercury was found in the urine and stomatitis was produced. This Grabowski



accepts as undeniable proof that the sulphide of mercury can be absorbed and is therapeutically active, although mild in action. One of Neisser's scholars, Karl Wittner (*Inaugural Dissertation*, Breslau, 1898) was unable to confirm Grabowski's findings, but was able to save a rabbit, previously treated with mercurial inunctions, from death by mercurial poisoning by means of sulphur baths, whereas the control rabbit, kept in an ordinary water bath, died.

Carl Bruck (*Die gegenseitige Beeinflussung von Quecksilber und Schwefel im Organismus*, *Ztschr. f. exp. Path. u. Therap.*, 1909, vi, p. 246,) took up this question and instituted a very intelligently planned and interesting series of animal experiments. Bruck would take two rabbits of equal body weight, treat both with an equal quantity of mercury (sublimate injections, sublimate per os, and the insoluble mercurial salicylate by intramuscular injection) and then administer to one of them (mixed with the mercury or separately, subcutaneously or by mouth) a certain quantity of colloidal sulphur. In all cases, the control rabbit was profoundly affected by mercurial poisoning and died, while the rabbit which received a dose of sulphur in addition to the mercury, remained healthy. Without exception each of the many experiments proved the value of sulphur as an antidote for mercurial poisoning. Bruck's conclusions may be summarized as follows:

1. Sulphur given by mouth or subcutaneously exercises a pronounced antidotal action in mercury poisoning, whether the latter be due to absorption by the blood (intramuscular injections) or from the gastro-intestinal tract. This antitoxic action of sulphur to mercury is dependent upon:

- A. The proportional quantity of sulphur to that of mercury.
- B. The rapidity of absorption of the sulphur.
- C. The severity of the mercurial poisoning.

2. Atoxic mercurial compounds do not exist. The therapeutic, anti-syphilitic value of any given preparation is proportionate to its mercurial content and consequently to its toxicity.

3. The presence of large quantities of  $H_2S$  in the organs of rabbits, killed after ingestion of sulphur, can be easily proved by the usual chemical reagents, lead and silver nitrate. This  $H_2S$  probably changes mercury into the insoluble and unabsorbable mercurial sulphide.

4. The use of sulphur during inunctions offers no advantages. It is probable that the quantity of sulphur absorbed into the body from sulphur baths during a course of mercurial inunctions is not

sufficient to weaken the action of the mercury. This Bruck proved experimentally in rabbits.

5. The excellent therapeutic action of inunctions as administered at sulphur springs is, as Neisser claims, not due to the presence of sulphur in the baths.

In order to make clear to the reader Neisser's standpoint, I may state that he has always used and warmly advocated all approved means (warm baths, hot air baths, etc.) of increasing the absorption and elimination of mercury. I have personally applied such measures, under his instructions, to patients taking mercury during my service as one of his assistants at the Breslau clinic.

B. Those who oppose Neisser's views admit that if sulphur acted upon mercury in the body by forming the sulphide of mercury, the advantages of sulphur administration would be at least debatable. This reaction, it is claimed, while easily produced in the laboratory by passing a stream of  $H_2S$  through a solution of the bichloride in water, does not occur in the presence of the alkaline blood serum of the body. Desmoulières (*Les eau sulfureuses dans le traitement mercuriel, Ann. d. mal. vénér.*, 1908, p. 99) states that on account of the sodium-chloride of the blood serum all preparations of mercury, when absorbed into the system, are in the form of bichloride only. This in turn forms an albuminate in the tissues where it is immobilized and remains inactive until dissolved and again brought into the circulation. The object of effective mercurial therapy is, therefore, to not only administer the drug but to prevent its retention in the tissues in an inactive form. On this point, Touton of Wiesbaden (*Syphilistherapie. Die Geschlechtskrankheiten. Deutsche Klinik.*, p. 541) writes "the continuous accumulation of mercury in the system is not the object of specific treatment. On the contrary we should seek to eliminate the mercury which has been used up in fighting the spirochaeta, together with the latter, as quickly as possible and thus be able to administer fresh mercury which is active."

Under ordinary circumstances, the excess of alkaline chlorides and albumin of the blood slowly dissolves the stores of albuminate of mercury in the tissues, but this process is irregular and unreliable. It can be hastened by the internal use of water containing an unusually large proportion of sodium chloride. But if sulphur be given (Emery et Chatin, *La syphilis*, p. 369) the solvent effect of the alkaline blood upon the mercurial albuminates is at once increased, sulphate of mercury is formed and easily eliminated, thus forming an active current of mercury in the body, of which the

excess is neutralized and eliminated. This is why the use of sulphur water makes it possible to give as inunctions as much as 20.0 (5v) of mercurial ointment daily and intensifies the action of the treatment. The body is thus able to absorb large quantities of mercury without injury or danger of mercury poisoning. Hence according to the views of these and many other writers on the subject, the idea might be illustrated by comparing mercurial treatment with sulphur water to the fresh, clear water of a swiftly flowing stream, moving in a bed which is kept clean by the current; and ordinary mercurial administration with its accumulations in the tissues and irregular elimination, to the waters of a stream which flows slowly in and out of a more or less stagnant pool.

#### COMPARATIVE VALUE OF SULPHUR COMPOUNDS.

When used as adjuvants to mercury or to cause its elimination, sulphur compounds differ very much in value. Thus,  $H_2S$  is the most active solvent because it is most remote from its final state of oxidation. Then, according to Desmoulière (*Les eaux sulfureuses dans le traitement de la syphilis, Arch. général. de med.*, 1904, p. 1748), follow in the order of their value the hyposulphites, sulphites and finally the sulphates. The latter have no action whatever.

#### ADMINISTRATION.

For internal use, the precipitated sulphur and sulphur spring water may be prescribed. Externally, sulphur water, either natural or artificial, may be used in the form of baths, douches or sprays. The use of the baths may be regarded in the light of a very useful hydrotherapeutic measure, while the internal use of sulphur is the form upon which we must rely for the therapeutic action.

#### INTERNAL ADMINISTRATION OF PRECIPITATED SULPHUR.

This results, according to Cushny (*Therapeutics*, 2d ed., p. 559) in the drug being changed in the alimentary tract to hydrosulphuric acid and sulphides. The sulphides irritate the bowel and produce purgation, while, when absorbed into the blood, they are rapidly oxidized and excreted in the urine as sulphates and organic sulphur compounds of unknown origin. Potter (*Therapeutics*, 12th ed., p. 477) and the United States Dispensatory (19th ed., p. 1202) state that as a result of the internal administration of sulphur, the amount

of  $H_2S$  eliminated by the skin is sufficient to blacken silver articles carried on the person. From this evidence we are justified in supposing that sulphur, used internally, can easily supply the blood with a quantity of highly active hydrogen sulphide which would be more than ample to dissolve such mercury as is stored in the tissues in the form of inactive albuminates. The pronounced stimulation by sulphur of the vascular system undoubtedly aids in the elimination of the mercury particularly when, as after the drinking of a certain quantity of plain water by the patient, a vehicle is present in the blood to aid in such elimination. The precipitated sulphur can be given in doses of 1.0 to 8.0 daily, either in powder or in tablets with plenty of drinking water.

#### INTERNAL ADMINISTRATION OF SULPHUR WATER.

For this purpose we should choose, not that water which contains the largest quantity of  $H_2S$  or sulphur in another active form, but rather a spring water of good sulphur content which can be drunk by the patient *without disturbing digestion*. It is desirable that the water should also contain a considerable quantity of chloride of sodium as this acts as an adjuvant to the sulphur and adds to the solvent power of the latter upon mercury. The internal use of sulphur water of suitable composition and in proper quantity constitutes a very active and efficient medication. Desmoulière (Les eaux sulfurées dans le traitement mercuriel, *Ann. d. mal. vénér.*, 1908, p. 99) states that sulphur water has been used for several years in the hôpital St. Louis by Professor Gaucher for the treatment of hydrargyrisms. Desmoulière quotes Gaucher as stating "In certain cases where you wish the organism to absorb a large quantity of mercury, sulphur water will be found an excellent adjuvant of mercurial medication." The dose is from 3 to 5 glasses daily.

#### SULPHUR BATHS.

These are described by Emery and Chatin as:

Tepid baths of sulphur water of 32 to 36 R, in which the patients remain for from 40 to 50 minutes. These baths clean the skin and make the mercurial inunctions more easily borne.

Sulphur douche massage (Aix-les-Bains, Uriage, Luchon) acts as a remarkable tonic for feeble syphilitics who require stimulation.

Vapor cabinet bath (Uriage, Luchon, Aix). The patient is seated in the cabinet with the head free and the body is exposed to

sulphur vapor which condenses on the skin. This results in stimulating metabolism and in increasing the excretion of urea and the urates.

Mauriac (*Traitement de la syphilis*, p. 350) gives the following formulæ for artificial sulphur baths:

1. Monosulphide of soda crystals.....	60.0
Carbonate of soda, dry.....	30.0
Chloride of soda, dry.....	60.0
Mix. 1 bath.	
2. Trisulphide of potassium.....	100.0
Gelatine .....	250.0
Mix. 1 bath.	

#### DOSAGE OF MERCURY AT SULPHUR SPRINGS.

This is extremely heavy. Owing to the presence of well-trained attendants, inunctions can be used with excellent results. Absorption of mercury at Aix-la-Chapelle is measured by the quantity of mercury in the urine which, Chiray states, should contain three milligrams per liter after an ordinary course of treatment of three weeks. A 33% ointment is used. Emery and Chatin state that at the beginning 8 to 10.0 are rubbed in for twenty minutes immediately after the bath and the quantity is, later on, increased to 16 to 18.0.

As the patient sees his medical adviser daily, the soluble mercurial salts can be and are used in injections with excellent effect. The benzoate, biniodide, cyanate and cacodylate are given in double or treble the usual doses, but only after the tolerance of the intestines and particularly the kidneys has been very carefully tested and the patient subjected to a thorough physical examination.

#### SULPHUR TEST FOR SYPHILIS.

Up to the latter part of the last century, it was generally thought that sulphur possessed the property of exposing an undetected or suspected syphilis in an apparently healthy patient by causing cutaneous and other specific manifestations to appear after a course of sulphur water internally and externally. Sulphur water was believed to constitute a test for the effect of anti-syphilitic treatment by acting as described above. It is hardly necessary

to state that both ideas are entirely erroneous and devoid of any clinical or other scientific basis.

#### INFLUENCE OF SULPHUR UPON TREATMENT BY IODIDE OF POTASSIUM.

According to Tissier and Blondin (*Traitement de la syphilis*, p. 141) the use of sulphur water increases the tolerance of the patient to the iodides and enables him to take easily large doses of the latter. It is hard to say whether the sulphur plays any part at all in producing this tolerance, because we find that the waters of the Hot Springs of Arkansas, which are practically devoid of sulphur and  $\text{H}_2\text{S}$ , produce the same effect. Thus Keyes and Chetwood (*Venereal Diseases*, p. 226) state that a patient who at home could not tolerate three hundred grains of iodide of potassium will, while bathing in and drinking freely of the natural, hot water of the Hot Springs, digest one thousand grains a day with hardly a murmur. R. W. Taylor (*Venereal Diseases*, p. 911) also found patients at the Hot Springs able to stand much larger doses than at home.

#### TOXICOLOGY.

In poisoning by mercury (and also by lead) the action of sulphur in forming chemical combinations with the metal enables large doses of sulphur to be given with comparative safety. But it must not be thought sulphur in large quantities is harmless. According to Potter (*Therapeutics*, 12th ed., p. 477), large doses of sulphur given for any length of time may impair the blood, cause anæmia, emaciation, tremor and great debility. Many sulphur waters are not well tolerated by the stomach although of undoubted value for external use.

While sulphur is a remedy for mercurial poisoning, it does not always act well in cases of enteritis which is not a rare complication of the sulphur-mercury treatment, and may be due to overstimulation of the intestinal glands by the sulphur. At Aix-la-Chapelle, this complication, according to Chiray (*Le traitement de la syphilis à Aix-la-Chapelle*, *Ann. d. mal. vénér.*, 1907, p. 98) is successfully treated by large doses of castor oil administered as soon as the first symptoms appear. Emery and Chatin administer opium, after stopping the use of mercury.

## INDICATIONS FOR THE USE OF SULPHUR.

(Whether as the powdered precipitate or in the form of a sulphur spring water).

1. Patients taking large doses of mercury and who cannot be kept under observation. Here the use of sulphur will diminish the danger of mercurial poisoning.

2. Faulty assimilation of mercury.

3. Faulty elimination of mercury.

4. As a routine after-treatment following mercurial administration.

5. Habituation to mercury. Here the tissues appear to have lost their power to react to the drug and should be "resensitized" by sulphur or sulphur water.

6. Malignant, obstinate or constantly recurring syphilitic lesions.

7. Presence of nodes due to encapsulated masses of mercury, resulting from intramuscular injections of the insoluble mercurial salts.

8. Intolerance to mercury.

9. Syphilitics who also suffer from anæmia, rheumatism, gout, scrofuloderma, debility.

10. True syphilitic cachexia.

11. Mercurial poisoning, acute and chronic.

12. Intolerance to the iodides.

## CONTRAINDICATIONS.

These depend largely upon the composition of the sulphur water used, its manner of application and the physical condition of the patient. In general, however, the following conditions may be accepted as contraindications:

Pregnancy.

Diseases of the liver.

Visceral congestion.

Arteriosclerosis.

Nervous diseases of serious character.

Active tuberculous processes.

Certain forms of pruritus (Vaquez).

Gastric intolerance.

The last named is very important, as sulphur water is of value only when it does not derange digestion. For this reason many strongly sulphuretted waters are entirely unsuitable for internal use.

#### SULPHUR SPRINGS.

The statement has been made by more than one competent observer that mineral springs of various types can be found in the United States which should surpass those in Europe of a similar character in therapeutic efficiency when administered with equal intelligence and care. This statement is probably true, but unfortunately the number of American sulphur watering places which possess an adequate thermal establishment under efficient management, well-trained resident physicians and comfortable hotels, is lamentably small. Richfield Springs was highly recommended by the late Robert W. Taylor (*Venereal Diseases*, pp. 908-911) who stated that "it is a matter of congratulation that our own Richfield Springs offers all the benefits so much vaunted at Aix-la-Chapelle and Uriage." Bulkley (*Arch. Dermat.*, 1880, vi, p. 233, On the Use of Sulphur) mentions, in addition to Richfield, the sulphur springs of Sharon, Avon and the White Sulphur Springs of Virginia. The water of the widely known Hot Springs of Arkansas does not possess a sufficiently large sulphur content to justify its being classed as a sulphur water.

In Europe there are many sulphur springs and of these the following are best known for the treatment of syphilis.

FRANCE. Uriage, Luchon, Cauterets, Barèges, Aix-les-Bains, Challes and Enghien.

GERMANY. Aix-la-Chapelle (Aachen) Neundorf, Baden-Baden.

AUSTRIA. Baden bei Wien, Warasdin, Pystian.

Of the above, Uriage and Aix-la-Chapelle are the most popular. Both resorts have long enjoyed the confidence of the profession. The water of Uriage keeps perfectly when bottled and hence is much used for home treatment and hospital patients. It is particularly useful in the treatment of patients with sensitive stomachs as, unlike many sulphur waters, it does not derange gastric digestion.

The following list is appended to show the altitude of the more popular European sulphur springs and some characteristics of the water of each:



Country.	Springs.	Altitude in metres.	Temperature of water.	Sulphur content per litre.
FRANCE:				
Uriage .....		414	23° C.	3.312 total sulphates.
Luchon .....		635	68° C.	0.076 sodium sulphide.
Barèges .....		1232	45° C.	0.039 sodium sulphide.
Cauterets .....		980	53° C.	0.024 sodium sulphide.
Aix-les-Bains .....		250	47° C.	0.24 alkaline sulphates.
Aix-les-Bains (Marlioe).....		250	14° C.	0.029 sodium sulphide.
Enghien .....		44	15° C.	38 cc. H <sub>2</sub> S. per litre.
GERMANY:				
Aix-la-Chapelle (Aachen)....		187	45-55° C.	0.01% sodium sulphide.
Baden-Baden .....		183	50° C.	0.6 H <sub>2</sub> S. to litre.
AUSTRIA:				
Baden bei Wein.....		232	36° C.	2.56% H <sub>2</sub> S. per cubic centimetre.
Warasdin-Teplitz .....		...	57° C.	4.9 H <sub>2</sub> S. to litre.
Pystian (Pöstyén) .....		...	63° C.	15.6 H <sub>2</sub> S.

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NOTE. The next installment of DERMATOLOGICAL THERAPEUTICS, consisting of a discussion of the important drug ICHTHYOL, will appear in the *September issue* of THE JOURNAL. This department will not be represented in the *August issue* on account of lack of space.

ED.

## SOCIETY TRANSACTIONS.

### NEW YORK DERMATOLOGICAL SOCIETY.

Regular meetings, January, February, and March, 1913.

JEROME KINGSBURY, M.D., *Chairman.*

#### CASE FOR DIAGNOSIS. Presented by DR. HOWARD FOX.

The patient, Miss H., had previously been presented before the Society by Dr. G. H. Fox (See *Journ. Cutan. Dis.*, 1911, xxix, p. 595). She was a woman 34 years of age, born in the United States. The eruption had first appeared as a pea sized nodule in the mucous membrane of the mouth about two years ago. Two months later it was seen upon the left cheek, and gradually increased until a circinate group of nodules was formed. The diagnosis then lay apparently between tuberculosis and syphilis. No improvement was shown from two injections of salicylate of mercury, and the Wassermann test was negative on two occasions. On the assumption that the condition was probably tuberculous, the patient was vigorously treated both in this country and abroad by the Finsen-Reyn lamp. This was followed by a marked improve-

ment. The eruption finally appeared upon the right side of the face with a more superficial and less nodular form, looking quite like a lupus erythematosus. This did not respond favorably to the Finsen therapy. No biopsy had been made. The von Pirquet test was negative. Dr. Fox said that a full account of the case would be reported later in *THE JOURNAL*.

Dr. TRIMBLE said that he had seen the patient some time before in consultation with Dr. Fox, and then felt quite certain that it was a case of lupus vulgaris. At that time, the lesion on the right side was so small that no one would have ventured a diagnosis. Considered clinically, the lesion on the left side seemed fairly characteristic of lupus vulgaris; it was nodular, deeply infiltrated, and had an iron rust color. To-night the lesion on the left side seemed quite characteristic of erythematous lupus, but the deep atrophic depression on the left side marking the former lesion was not at all similar to the scarring following erythematous lupus. This depression indicated that some very heavy infiltration had been absorbed, and this would point to lupus vulgaris. He still thought the lesion on the left side was lupus vulgaris.

Dr. JACKSON believed the case to be one of lupus erythematosus. It would be unusual to have lupus vulgaris develop in a subject thirty years old. Then he had not found any apple-jelly like tubercles, and the patches had developed rapidly. Lupus vulgaris was of far slower growth. The depressed patch on the lower part of the cheek, it seemed to him, might be due to the treatment by Finsen light. It seemed to him not improbable that hourly and two-hourly treatments several times a week made on a damaged skin, a strong electric light streaming through a thick piece of glass pressed with force against it, might well account for the atrophy of the underlying structures.

Dr. WHITEHOUSE said that he also thought that the sinking in of the cheek might be due to treatment, as Dr. Jackson had suggested. When he had seen the patient some time ago, his diagnosis was lupus vulgaris, and while no distinct tubercles were now noticeable, he was still inclined to that diagnosis. The lesion on the left cheek was greatly improved. It was certainly a most unusual case. He felt, however, that if a biopsy had been made at the beginning it would have been much better for the individual, as it might have thrown a great deal of light upon the condition. Even now he felt that it should be insisted upon, for the deformity which it might cause would be nothing as compared with the result of this intensive light treatment.

Dr. MacKEE said that the lesion on the left cheek was deeply seated. If grasped between the fingers it gave the same impression as that produced by morphæa. The case reminded the speaker of a patient he had presented to the Dermatological Section of the New York Academy of Medicine at the December, 1909, meeting, in which there were lesions that were very similar to the one exhibited on the right cheek of Dr. Fox's patient. In the former case, the diagnosis of Crocker's nodular lupus erythematosus and of sarcoid had been considered. The patient would not allow a biopsy to be made, so that the diagnosis was still in doubt.

Dr. JOHNSTON did not think the case specific, nor did he believe it was a granuloma; but he felt that no advance could be made to a correct diagnosis without a biopsy. That would at least exclude certain conditions.

#### CASE FOR DIAGNOSIS. (KELOIDAL SCARS). Presented by Dr. WHITEHOUSE.

The patient, a young woman, had no disease at present on the skin, but had lesions from former eruptions on the face and on the body. Two

years ago she had an attack of variola. She applied for treatment for the unusual condition on the nose, a peculiar moth-eaten effect, which she wished smoothed out. The other marks were scars on the arms, legs and breasts. She stated that three weeks after the small-pox there were on the site of these cicatrices water-blisters, sometimes a pustular condition, and in the bend of one elbow an ulceration which healed after the application of an oil given her by a physician. The whole affair dated back two years.

DR. TRIMBLE said that he had under observation a case with a very similar condition. The appearance on the breast and back of his patient was somewhat that of a mild acne, and the keloids may have been due to injured acne papules. The patient shown might possibly have been a malingerer, the condition being self-produced.

DR. MACKEE considered the condition on the face to be a remarkable reticulated scarring produced by an acid. The milia were probably the result of the closing of the orifices of the sebaceous glands by the scars.

DR. WHITEHOUSE said that some circumstances suggested that part at least of the condition was factitious, such as the cicatrices on the shoulder. Independent of the pigmentary condition on the side of the neck, there were just below, on the shoulders, a lot of small cicatrices surrounded by a pigmented areola, as if an acid had been spattered over it. That, together with the linear character of the lesions on the breast, suggested that it had been done with a stick or brush dipped in acid, which would have produced a keloidal condition of that sort. He had never seen small-pox produce just that honey-comb appearance of the nose. The patient was eighteen years of age and extremely neurotic, and this trouble followed two weeks after the small-pox. He could not conceive of any skin disease producing such a scarring.

#### FOLLICULITIS DECALVANS. Presented by DR. HOWARD FOX.

The patient, Sylvia L., was a girl five and a half years of age, born in the United States of Russian parents. Her parents, two brothers and two sisters were living, apparently healthy, and had luxuriant heads of hair. During the first three years of her life the patient suffered from "stomach trouble" and severe constipation. At eleven months she began to talk. She did not walk until two years old, about which time teething began. She suffered from rickets, according to her family physician. At birth and up to the tenth month the scalp was entirely bald, according to the mother's statement. From that time until she was two and a half years old the hair grew sparsely and only an inch or two in length. From that time to the present the growth of hair upon the greater part of the scalp had been fairly normal.

Upon the vertex were seen numerous, firm, pin head sized papules, that had been previously (three weeks before) accompanied by considerable redness. No distinct vesicles or pustules could be seen. She had also previously presented a diffuse, greasy pityriasis of the scalp. Upon the vertex the hair was thin and there was apparently some scaling. The hair upon the frontal region was sparse and short, though no inflammatory process and no scarring were present. The eyebrows were

also rather thin, and the skin somewhat reddened in this locality. The patient was delicate in appearance and presented a well marked olympic forehead, but no other stigmata of hereditary syphilis. No history of this disease was obtainable. She presented hypertrophied tonsils, and a marked keratosis pilaris of the extremities.

DR. JACKSON agreed with the diagnosis of folliculitis decalvans.

#### EPITHELIOMA IN A SYPHILITIC WOMAN. Presented by DR. WINFIELD.

The patient was a woman aged forty-eight, who had an ulcerating patch on the left side of the nose. She had been a patient of the Skin and Cancer Hospital for over a year. When she first went there, the lesion was much more extensive, and they diagnosed a specific condition, which was confirmed by a positive Wassermann. While there she received six intravenous injections of salvarsan. Early in the autumn, she came to Dr. Potter's clinic at the Long Island College Hospital. She was again put under specific treatment, but there was no curative effect upon the lesion of the nose. A biopsy was made, and the pathologist reported it to be epithelioma. Then she was treated by the X-ray, and under a few applications the lesion healed. It undoubtedly was an epithelioma, grafted upon an old, chronic syphilitic lesion.

DR. WHITEHOUSE said that he was very glad to see this case, for while it was at the Skin and Cancer Hospital he had about reached the same conclusion as that of the men from Brooklyn. This was one of the earliest cases treated with salvarsan by him at the Skin and Cancer Hospital. The patient gave a positive Wassermann. At that time the lesion seemed clinically to be a nodular syphilide. She had two treatments of salvarsan in the spring (in June); following these she gave a negative Wassermann, and it practically healed. The case went over through the summer with no further treatment. At that time a series of six patients was being tested with the treatment, and five of the six had a positive Wassermann again in the Fall after being negatived by the salvarsan. She was the only one, however, whose lesions broke down in the Fall. She returned in the Fall with the nose broken down again, after it had nearly healed under the first two doses of salvarsan. She had had a child in the meanwhile, and said that she thought the child had scratched or injured it again, besides receiving a bump against a door. She was then given four more doses of salvarsan without any material change, and then she disappeared from observation. From the non-effect of the salvarsan it was thought that the condition might have been malignant. He was much pleased to see the matter cleared up. At the beginning it was undoubtedly a syphilitic process, which degenerated into an epithelioma.

#### KELOID SCARRING FROM BENZINE, TREATED WITH THE X-RAY. Presented by DR. WINFIELD.

The patient was a boy nine years old. The keloid was caused by a burn from an explosion of benzine. The chin, lips and cheeks were badly scarred, and before the treatment was instituted, in places the induration

was from a quarter to a half inch thick. The mouth was drawn from the constricting bands of scar tissue. The induration and constriction was markedly improved since the institution of the treatment. He received the ray for five minutes daily, and the speaker expected perfect results inside of a year.

DR. WHITEHOUSE said that it was a most interesting case, and asked Dr. Winfield what his experience had been with X-ray treatment of keloids.

DR. WINFIELD said that he had had a number of cases in which it effected a marked improvement.

DR. TRIMBLE said that he too had had several cases of keloids which improved under X-ray treatment. In reply to a query from one of the members, he told of a mild keloidal scar on the side of the face which had flattened out entirely under the X-ray. At present he had a case of keloid under observation at the Skin and Cancer Hospital. The scar was on the face and was one of the worst he had ever seen; he intended a little later to present it to the Society. The patient had been under X-ray treatment now for several months, but with no improvement. Previous to that he had had twelve or fifteen injections of fibrolysin without effect. In several other cases he had seen very beneficial results from the X-ray treatment.

DR. JOHNSTON said that the condition of the right inner canthus reminded him of a case he had seen some time before. The patient, a woman, had xanthelasma of the lids, and he had used an application of acetic acid upon it. She returned in eight weeks with two keloidal scars, but the disease was cured.

DR. WINFIELD inquired whether the patient to whom Dr. Trimble had referred was a young person, to which Dr. Trimble replied that he was twenty-three years of age. Dr. Winfield then remarked that one gets better results from the X-ray with children than with adults.

DR. KINGSBURY said that the younger the patient the better were the chances of spontaneous improvement.

#### CASE FOR DIAGNOSIS (LESION OF THE LIP, PREVIOUSLY SHOWN). Presented by DR. HOWARD FOX.

Since the last meeting, the patient, Mr. L., had been treated twice by Dr. MacKee with the X-ray, receiving each time 4 Holzknecht units of a Benoist 6 ray. A biopsy had been performed upon which Dr. Johnston was requested to report.

DR. TRIMBLE said that, clinically, the lesion resembled tuberculosis verrucosa cutis more than it did when the patient was shown before.

DR. WINFIELD said that it certainly resembled a tuberculous condition.

DR. MACKEE said that the patient had been referred to him for X-ray treatment, and he had given two doses of 4 Holzknecht units of a Benoist 6 ray, four weeks apart. Each application was followed by an erythema, but there had not been enough improvement to warrant further radiotherapeutic measures. The X-ray might be more efficacious if the thickened horny layer were first removed by the use of salicylic acid, but the speaker felt that very little benefit could be expected from radiotherapy in this case. Dr. MacKee was inclined to associate the leucoplakia with the skin lesion and asked the members to discuss this point. From a clinical standpoint the lesion strongly resembled a tuberculosis verrucosa cutis, but the microscopical sections did not confirm the diagnosis and then the X-ray would, in all probability, prove more efficacious if the lesion were one of tuberculosis.

CASE FOR DIFFERENTIAL DIAGNOSIS: TUBERCULOSIS, CUTIS OR BLASTOMYCOSIS. Presented by DR. WINFIELD.

The patient was a Russian boy, aged 14. The lesion was situated over the instep of the right foot. It was warty in character, and when Dr. Winfield first saw it there were a number of miliary abscesses about the borders of the lesion. The whole involved skin was about two by three inches in size. There had been no biopsy made, consequently the speaker was unable to report on the microscopical appearance. The disease apparently followed an injury to the skin, caused by the falling of a heavy weight upon the foot. This occurred eight years previously, and the warty growth had started to extend from a small dime-sized patch until it had attained its present size.

DR. DADE said it was tuberculosis verrucosa cutis.

DR. HOWARD FOX was inclined to agree with Dr. Dade, though from the clinical appearance the disease might have been either tuberculosis or blastomycosis. As the latter condition was very seldom seen in New York, the chances greatly favored the probability of tuberculosis in this case.

DR. WHITEHOUSE suggested that the microscope would decide the question.

CASE OF PSORIASIS, SHOWING RESULTS OF TREATMENT. Presented by DR. WINFIELD.

The patient was a man aged 45. He had been an inmate of the County Hospital on several occasions. Each time he had been there for the treatment of psoriasis. The disease dated back fifteen years. The acute attacks usually came on in the autumn, and were always very obstinate to treatment. The present attack dated back to October, and he entered the hospital in November. Nearly the whole of the cutaneous surface was involved. The ordinary treatment seemed to have little effect. As it was the custom in the cutaneous ward, a Wassermann test was made on this patient along with the others. Much to the surprise of all it was found to be four  $+++$  positive. Thinking there had been some mistake, Dr. Winfield ordered another Wassermann made, which gave the same reaction as before. The man was given six-tenths gram of salvarsan; within ten days after the injection the psoriasis was very much better and continued to improve. He received a second dose of salvarsan; the patient appeared to be well a month after his presentation before the Society.

DR. TRIMBLE said that some time ago in association with Dr. Howard Fox he had treated a series of cases of syphilis with salvarsan. Two of these patients had psoriasis which had existed for years before contracting syphilis. The lesions of lues cleared up in a short time and the psoriasis entirely disappeared in a month or six weeks, and so far as he knew had not recurred. Since then he had injected several cases of psoriasis that did not have syphilis, with absolutely no beneficial results.

DR. HOWARD FOX could corroborate what Dr. Trimble had said in regard to the apparently brilliant results secured in two cases of combined syphilis and psoriasis. He had notes of nine cases of psoriasis which he had treated with salvarsan, but without any apparent benefit. In two cases the injections were repeated.

DR. WINFIELD said that he had now four cases of psoriasis in the hospital without any signs of syphilis, which had received four injections without benefit. There were also four control cases that gave no history of syphilis but a positive Wassermann; these had gotten entirely well.

CANCER DEVELOPING ON A SYPHILITIC BASE. Presented  
by DR. WHITEHOUSE.

Bernard R., aged 39 years. He had a chancre eleven years ago and was married recently. The disease began as a lump in the roof of the mouth eight years ago, but did not give trouble until three years ago, when an abscess was opened and drained; this healed under mercury, and he had taken mercury most of the time up to the date of observation, yet it broke down again two years ago and resisted treatment. When first seen, Oct. 12, 1912, he had a gummatous ulceration of the soft palate extending to the hard palate with perforation into the nasal cavity. The gummatous mass also involved the superior alveolar process and maxillary bone, with swelling, redness and pain of the right molar region, with opening and ulceration between the cheeks and the alveolar margin. He suffered great pain, extending through and over the eye, requiring opiates for relief. He was pale and anemic. The Wassermann was negative.

He was given four intravenous injections of neosalvarsan on October 17, 19, 22 and 24, in doses respectively of 0.75, 0.9, 0.9, 0.9. In a month there was great improvement; swelling, redness and pain disappeared, and he left the hospital for his home in Connecticut, with instructions to follow up the treatment with mercury. He failed to do this, but returned November 18, with the condition worse again. The Wassermann was still negative. He was given two more salvarsan injections Dec. 3 and 5, of 0.6 each time, with a decided local reactionary effect; but the destructive process continued with some dead bone coming away, and finally ulcerating through, on to cheek and extending with a hard rolled edge a distance of one inch down on the upper lip. During the past month he had had injections and potassium iodide, with no effect.

DR. KINGSBURY told of two cases, a man and a woman, both comparatively young, who had syphilis, and after the administration of salvarsan both developed epithelioma.

REPORTS OF CASES.

DR. WINFIELD reported on the case of disseminate lupus erythematosus presented by Dr. MacKee at the October, 1912, meeting of the Society. The patient entered the Kings County Hospital in December apparently suffering from pneumonia. The autopsy demonstrated an acute pulmonary tuberculosis.



DR. DADE said that autopsy records showed that lupus erythematosus was found more frequently in association with tuberculosis of the lungs than true lupus.

DR. MACKEE said that he was very much interested in Dr. Winfield's report. The speaker had understood that the boy had died of lobar pneumonia. The case was the young man, 18 years of age, from Dr. Fordyce's clinic, whom Dr. MacKee had presented at the October, 1912, meeting of the Society. The disease developed on the nose and spread over the entire face in a few weeks. Strong applications had been applied so that when the patient first came under observation there was a marked secondary dermatitis which obscured the true diagnosis. The eruption soon attacked the chest, and spread over the entire body in patches. Dr. MacKee considered the case to be of the type described as "lupus erythemaux aigu d'emblée" by the French school. Pernet had written a monograph on this subject, in which he described several cases and reviewed the literature. All these cases appeared to be associated with tuberculosis.

DR. TRIMBLE inquired whether the members recalled the case of a young man with disseminate lupus erythematosus shown at the meeting held in his office in October. This patient had shown some improvement under quinine. He was now being given ten grains a day, and this would be carried up to thirty grains. The lesions on the forehead were breaking away.

DR. TRIMBLE also said he has had six cases of disseminate lupus erythematosus, one of which died; the others were still under observation, and at present showed no evidence of tuberculosis.

DR. JACKSON reported the case of a girl, six years old, who was brought to him on account of hypertrichosis, which took the form of long, silky hairs growing from both the upper arms and forearms in the neighborhood of the elbows. It was about as long as the scalp hair of a two year old child. The mother stated that the child was born with the hair.

DR. MACKEE said that the literature contained many reports of verrucæ of one hand disappearing as a result of successful treatment applied to similar lesions on the opposite hand. In this connection the speaker told of a case of hypertrophic lichen planus of the wrist which had been cured with one application of the X-ray. There was a large common wart on the little finger of the same hand which did not receive any ray at all or any other treatment, and yet it disappeared along with the lichen lesions. There had been some work done, the speaker said, to prove that the X-ray produced an antibody, or some other theoretical substance, and perhaps this might be the explanation of the disappearance of the wart. On the other hand, the effect of the ray on the peripheral nerves must also be taken into consideration.

DR. DADE asked how many of the members had seen what is called erysipeloid on the face.

DR. MACKEE said that he had seen many cases of erysipeloid of Rosenbach in the fishermen of the Jersey coast. In his experience, it had been always limited to the fingers and hands, but he saw no reason why it could not occur on other parts of the body. In the cases he had seen, the progress of the disease appeared to be very slow and spread as a lymphangitis. It was never severe, and appeared to be self-limited, disappearing spontaneously in two or three weeks.

DR. JACKSON said that it was an inflammation, the result of an infection that resembled erysipelas, but ran a longer course without constitutional symptoms. It usually originated in a wound about the hands.

## LICHEN PLANUS ANNULARIS. Presented by DR. TRIMBLE.

The patient was a woman, thirty-seven years of age. Her general health had always been good, but she had formerly had two attacks of eczema. One attack occurred in childhood and was vesicular in character; the other occurred in 1910 and was of the erythematous type. The present lesions were annular in outline, almost the size of a pea, or slightly larger, and situated on the upper left side of the chest. Dr. Trimble said that the main feature to be considered was whether the treatment should be with arsenic or mercury. Personally, he preferred mercury, but thought it might be a good opportunity to try arsenic. The result had been much better than he had anticipated.

The diagnosis was generally accepted.

## EPITHELIOMA CUTIS. Presented by DR. TRIMBLE.

The patient was a man, sixty-two years of age. The lesion was of the extremely superficial variety, non-ulcerating, was about the size of a silver dollar, and located on the upper and outer aspect of the forearm. It had existed for twelve years, and was presented on account of the unusual type.

DR. FORDYCE said that it was a rather unusual picture of epithelioma, but that there was no doubt as to the diagnosis.

DR. BULKLEY agreed with the diagnosis, but thought that sooner or later the lesion would give more trouble. He suggested treatment with thorium paste, which he thought would clear up the condition quickly, without causing ulceration.

DR. WHITEHOUSE also thought that the lesion would give the man trouble later.

DR. TRIMBLE said that he had presented the case because it was of a rather unusual type of superficial lesion. He had suggested operation, and the man was considering the question. He had in mind curettage, but had not yet decided just what would be best. It seemed to be a very slow process, and he thought that with proper treatment a cure might be effected.

DR. JOHNSTON suggested treatment with X-ray.

DR. TRIMBLE said that he usually preferred to keep X-ray treatment in reserve, and try curettage or other methods first. A peculiar feature about the X-ray treatment was that when the condition did recur, the treatment was not so effective the second time as on the original growth.

DR. JOHNSTON said that there was seldom a recurrence with a rodent ulcer.

DR. FORDYCE expressed the opinion that the results obtained by X-ray treatment were largely a matter of technique. He recalled a case which had been presented before the Society a year ago. The patient was a woman who had been treated formerly by X-ray with temporary benefit and then with radium. Her condition had become greatly aggravated, but subsequently she was treated with X-ray by another physician, who brought about a complete resolution of her lesions.

DR. KINGSBURY said that he remembered the case to which Dr. Fordyce referred, and that it was generally agreed at the time that it was hopeless.

DR. TRIMBLE said that he was indeed glad to hear of this cure. When he first saw the woman, she told about having been "the rounds" of both America

and Europe, and he did not know what could be done for her, but suggested X-ray. She said that she had been treated by several persons with X-ray, and refused to try again. He accordingly gave some palliative treatment. He agreed with Dr. Fordyce that it was mainly a matter of technique. He then cited a case which he had presented before the American Dermatological Society, a lesion on the lip, which he had treated with the X-ray. Several surgeons had refused to operate on the case. It was absolutely cured by the X-ray treatment, though later it recurred in one nodule.

DR. FORDYCE said that the recurrence in the case to which Dr. Trimble referred was probably due to a biopsy. The recurrence took place where the excision was made. He was becoming more and more convinced that such a procedure was a mistake, for the open blood vessels produced by the excision afforded a focus for re-infection.

DR. WHITEHOUSE, referring to the case cited by Dr. Fordyce, asked how it differed from Paget's disease. Dr. Fordyce replied that it was very similar clinically and histologically to Paget's disease. In some of the flat epitheliomata one saw the cell changes as in Paget's disease; in others, not. It may be that this was due to the stage at which it was examined. This was a very good point; if the lesion were around the breast and nipple, it would be called Paget's disease. The infiltration was more marked and there was more of an erosion, however, in Paget's disease of the nipple.

#### SCLERODERMA AND SCLERODACTYLIA. Presented by DR. TRIMBLE.

The patient was a young woman, twenty years of age, from Dr. Fordyce's clinic. The condition had existed for four years. The fingers and backs of the hands were affected, being hard, stiff, and nearly always cold. The condition was somewhat generalized over the face and chest as far down as both nipples. No other history was available at the time of presentation.

DR. WHITEHOUSE said that it seemed to be a very rapidly progressing case, for four years' duration.

DR. FORDYCE said that scleroderma was a most mysterious affection, and unfortunately we had no clue as to the ætiological factors concerned in it. He had seen two cases in patients with Graves' disease who had at the same time a typical alopecia areata.

DR. BULKLEY said that it was a very interesting case. Some time ago he had a patient with an immense scleroderma of the arm and chest, which had changed very much for the better under treatment with nitro-glycerine, though it had taken six months or more. Really the softening up of the tissues was very remarkable. Another case also had shown a very marvellous change. This case had ulcerations of the foot also, and the patient took thousands of nitro-glycerine tablets. She became very comfortable and happy, and the skin of her fingers softened up.

#### BROMIDE ERUPTION. Presented by DR. WHITEHOUSE.

The patient was a young man about eighteen years of age, who came under observation about a week ago. About a month ago he had an apparent epileptic fit, and he was put upon bromide, which was continued until he came to the hospital. He was taking Fowler's solution, 5 minims, three times a day at the time of presentation.

The eruption consisted of fungoid lesions on both lower legs, varying in size from  $\frac{1}{4}$  inch to  $2\frac{1}{2}$  inches in diameter.

DR. FORDYCE said that the case was a typical one of bromide eruption. He had frequently seen a similar condition on the legs between the knees and ankles. It was possible that the circulation influenced the localization of the lesions in these places.

DR. BULKLEY recommended giving arsenic, as that seemed to control the condition.

DR. WHITEHOUSE confirmed what Dr. Fordyce had said about the frequency with which such lesions were seen on the lower legs, and recalled a case seen a few years ago. Some of these cases very closely resembled malignant disease. One case was considered to be sarcoma. The lesion was as big as the fist, on the lower leg. He had advised waiting before operating, and giving arsenic. This was done, and the lesion disappeared. It looked for all the world like a great fungating sarcoma.

DR. FORDYCE said that Hutchinson had published a number of illustrations showing fungating tumors produced by the internal use of the bromides, which simulated very closely mycosis fungoides.

#### CASE OF DISSEMINATED ANGIOMA. Presented by DR. JACKSON.

The patient was a well-built man, 33 years old. He stated that he was in the best of health, and never had any venereal disease excepting chancroids many years ago. The eruption for which he came to Dr. Jackson began when he was about eighteen years old on the back of his hands, while he was a car driver. He had always had a nævus on the back of his left hand. It was about this time that similar lesions appeared on his feet. Since then the eruption had slowly spread, ascending the arms and legs and invading the trunk, but thus far almost entirely sparing the face. The lesions after appearing did not change in size, and were permanent. There were no subjective symptoms.

The eruption consisted of an enormous number of small, red, scarcely elevated papules and macules. Many of the papules were highly vascular, of dark red color which entirely disappeared under pressure, to promptly return when pressure was taken off. These were most marked on the buttocks. Over the buttocks were many superficial scars. On his hands and feet were a number of small bullæ, which he said came and went. His skin was irritable, reddening readily.

This case corresponded to one published by Pollitzer in Volume xiv of the International Atlas of Rare Skin Diseases, under the name of *Nævus Angiectodes Disseminatus*, excepting that his case was congenital.

DR. FORDYCE said that he was uncertain whether the condition was one of primary capillary dilatation, or whether it was secondary to some antecedent lesion. He would not care to express a positive opinion on this point without a more careful examination.

DR. HOWARD FOX said that he had seen the patient about seven years previously at the Vanderbilt Clinic, and as far as he could see there had been no change. The lesions seemed to be small angiomata.

**BLASTOMYCOSIS.** Presented by DR. TRIMBLE.

The patient was a man, aged twenty-four years. He was of Italian parentage. Situated on the right buttock was an indurated verrucous lesion, about four inches long and two inches wide. It was filled with cutaneous abscesses, and the duration was about one year.

Upon histological examination, the blastomycetes were discovered; the specimen was also shown.

DR. WINFIELD said that he had seen only two cases, and this one resembled them very much.

DR. HOWARD FOX said that the case resembled closely that of a mulatto shown by his father at the International Congress. The situation of the lesions in both cases was almost identical. He thought that some cases of blastomycosis were overworked not only by the clinicians but also by the pathologists, as had happened in the above mentioned patient.

DR. FORDYCE regarded the lesion as a typical one of blastomycosis.

DR. TRIMBLE recalled a case he had seen some years ago, which he had called tuberculosis cutis and which he was now inclined to believe was blastomycosis. Both conditions showed cutaneous abscesses, but a point in the clinical diagnosis that he thought of some value was the apparent moisture in the blastomycosis cases. The granulomatous or verrucous surface in cases of blastomycosis which was so much like tuberculosis could be broken down very easily with a curette, in fact it was often soft and soggy underneath. In other words, there were more cutaneous abscesses in blastomycosis than in tuberculosis verrucosa cutis.

DR. TRIMBLE asked for suggestions as to treatment, whether it would be considered wise to excise, or curette the lesion vigorously and then apply a caustic.

DR. WINFIELD told of a case which he had curetted vigorously. It healed very well and seemed to be doing all right for a time, but then broke down on the edge. It finally healed up under X-ray treatment.

DR. SHERWELL agreed with Dr. Trimble, in believing that many cases of blastomycosis had been diagnosed as verrucous tuberculosis of the skin. He thought also that the moister or less hardened verrucous character of blastomycosis should lead to doubt in making a diagnosis of tuberculosis verrucosa cutis without microscopical examination. Speaking clinically, he usually had no great difficulty ordinarily in curing cases of verrucous tuberculosis of the skin by curettage, application of the acid mercury solution, and subsequent use of ammoniated mercury unguents of varying strength. One such case had been under his treatment lately, not a month since, the backs of both hands being (typical situation) affected. At his last visit a day or two since they were entirely well.

**TUBERCULOSIS CUTIS.** Presented by DR. MACKEE for DR. WISE.

The patient was a single man, 25 years of age, a native of Austria. There was no history of syphilis and the Wassermann reaction was negative. The von Pirquet reaction was strongly positive. The patient exhibited a palm-sized lesion on the left buttock of 8 years' duration. It was a serpiginous patch of a somewhat violaceous color. The lesion was composed of hypertrophic tissue covered with a verrucous-looking crust. In places, healing had occurred spontaneously and there was some atrophy. There had been no ulceration and the typical nodules of lupus vulgaris

could not be demonstrated. The patient stated that he had never been treated for the condition.

The consensus of opinion was that the case was one of lupus vulgaris.

**LUPUS ERYTHEMATOSUS.** Presented by DR. TRIMBLE.

The patient, a woman aged fifty-five, had lesions on the face, scalp and tongue. The disease had been present on the face and scalp for a number of years, but those on the tongue had existed only six months. She was presented mainly on account of the mucous membrane lesions.

**HYPERIDROSIS OF PALMS ASSOCIATED WITH A VESICULAR ERUPTION.** Presented by DR. HOWARD FOX.

The patient, Anna F., was a girl, sixteen years of age, born in the United States, of Italian parents. Her hands were cold and purplish, and the palms and soles showed a pronounced hyperidrosis, a condition from which she had always suffered. During the past two and a half years this condition had been complicated by a chronic eruption of vesicles. These appeared as superficial lesions which showed no grouping, and which in the course of a couple of weeks dried and formed crusts. These fell without leaving any permanent scars. The lesions were few in number, not more than half a dozen being present at the same time. She appeared to be in fairly good health. The heart action was rapid. No murmurs were present.

**BAZIN'S DISEASE.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a single woman, 24 years of age, a native of the United States. She had been presented to the Society on two occasions. The first time, about two years ago, she exhibited a typical erythema induratum. On the second occasion, about one year ago, she was presented as an example of a cure resulting from the use of tuberculin.

When presented to the Society for the third time, there was one dime-sized lesion on the posterior surface of the left leg, half-way between the knee and ankle. This was considered to be a recurrence of the former trouble.

The patient was very sensitive to tuberculin and it had never been possible to give her any but the smallest doses. Tuberculin treatment would be instituted again and the result given to the Society at a future meeting.

**FAVUS.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a girl, 10 years of age and was born in Italy. She exhibited a circinate lesion, the size of a quarter, on the right side of the neck. The patch was slightly elevated, erythematous and resembled

tinea circinata with the exception of three typical, yellow, crateriform lesions or favus cups.

DERMATITIS PAPILLARIS CAPILLITII. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a married man, 49 years of age, born in Italy, the father of the little girl affected with favus. There were three follicular pustules on the back of the neck. In addition, there were eight minute keloids. There were two lesions which represented the evolution from the pustular to the keloidal stage of the disease. The case was presented as a very early example of dermatitis papillaris capillitii. On the patient's scalp was a silver-dollar-sized patch with atrophic, parchment-like skin and complete alopecia. This strongly suggested a former favus. No reliable history of this lesion could be obtained.

BUTTON-LIKE EPITHELIOMA. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a married woman, 49 years of age, who was born in the United States. She exhibited a hickory-nut-sized tumor of two years' duration on the left side of the nose near the inner canthus of the eye. The lesion was firm to the touch, waxy in appearance and was studded with pearly nodules. The overlying skin contained numerous dilated blood vessels.

DR. WINFIELD said that he had seen similar cases in which operation seemed to increase the malignancy of the condition.

DR. FORDYCE said that as the tumor was circumscribed, movable, and did not involve the deep tissues, he believed that a better result would be obtained by an excision of the growth.

DERMATITIS FACTITIA. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a single man, 34 years of age, a street-car conductor by occupation and a native of the United States. He was tall, thin and of a neurotic type; his general health was good. The duration of his skin trouble was eight months. In distribution, the eruption was somewhat generalized, affecting mostly, however, the face and chest. The back and the extremities were also involved. The patient stated that the lesions developed suddenly and were accompanied by a stinging or burning sensation. He ascribed them to the bites of insects. According to the degree of reaction or the strength of the caustic, the lesions varied in severity from an erythema followed by desquamation, to ulceration and scar formation. In size, they varied from a split-pea to a silver dollar. While some of the lesions were round, most of them were elongated and, occasionally, linear areas, caused by a drop of the caustic

running over the skin, were seen. The patient stated that when a lesion first appeared it was white, becoming red in a few minutes. This suggested carbolic acid as the causative factor. By suggestion it had been possible to ascertain the time and place of the appearance of a lesion.

When presented to the Society there were round and linear, erythematous and crusted lesions on the face, back and extremities. There were, also, several scars on the chest, one of which was keloidal.

**PSORIASIS OF THE HANDS.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a single man, 22 years of age, a driver by occupation and a native of the United States. The backs of the fingers and the dorsa of the hands were covered with sharply-marginated, scaly plaques. The scales were quite firmly adherent, but when scratched were shown to be micaceous in character. There had never been any vesiculation or exudation. There was, also, one scaly patch on the left elbow and one on the right knee. The duration of the eruption was five months.

**DERMATOGRAPHISM.** Presented by DR. MACKEE for DR. FORDYCE.

The patient was a youth, 18 years of age, native born. He had never suffered from urticaria, toxic erythema or pruritus. He came to the clinic because whenever his skin was irritated by friction, large wheals would develop. When presented to the Society the patient exhibited large letters on his back which had been produced by rubbing the skin with a blunt piece of wood. The letters were considerably elevated and there was very little erythema. The case markedly resembled the one shown in Stelwagon's text-book.

DR. TRIMBLE said that in many cases of a similar character there was no urticaria. Many times in the clinic he had drawn lines with the nail and brought out this condition, in patients with no skin lesion. The patient shown was an extremely good one of dermatographia, but he did not consider the condition of any especial diagnostic import.

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**PHILADELPHIA DERMATOLOGICAL SOCIETY.**

The regular monthly meeting was held on Monday, May 13, 1912, at the College of Physicians. DR. JAY F. SCHAMBERG, *President*.

**Keratosis Senilis and Carcinoma.** Presented by DR. PFAHLER.

The patient, a male of sixty-three, observed the development of a nodule on the lobe of the right ear two years ago. This tumor increased fairly rapidly in size until it had destroyed the entire right ear and eaten



considerably into the flesh, exposing a portion of the bone. Various therapeutic measures had been tried by other physicians without success. The patient also had typical keratotic patches on the face and on the dorsum of the hands.

DR. SCHAMBERG mentioned the fact that the rodent ulcer type of carcinoma caused glandular metastasis late in its course.

**Eczema Resembling Lupus Vulgaris.** Presented by DR. STELWAGON.

A boy of twelve was exhibited with multiple areas of affected skin, supposedly of nine years' duration. The face, the bends of the elbows and the neck presented oozing, crusted and thickened patches resembling somewhat tuberculosis of the skin. The yellowish-red appearance of the patches was probably due to secondary pus infection.

**Pigmented and Hairy Nævus.** Presented by DR. PFAHLER.

The patient was presented, chiefly with the thought that the discussion as to the most available treatment would prove of benefit. The nævus was quite extensive, involving the left cheek, the nose and the eyebrow. It was black in color and covered with coarse black hairs. The exhibitor thought fulguration would prove of the most benefit in the present case.

**Folliculitis Decalvans or Lupus Erythematosus?** Presented by DR. SCHAMBERG.

A woman of twenty, born in Russia, exhibited a loss of hair with a prominence of the follicles, of two years' duration. The entire occipital region exhibited the involvement. There was extensive scarring in the affected area suggesting folliculitis decalvans, but there were also follicular plugs.

The majority of those present considered that it was probably a case of lupus erythematosus.

**Syphilis Resembling Lupus Erythematosus.** Presented by DR. STELWAGON.

A negress of thirty exhibited an outbreak of one years' duration, symmetrical in character, on the nose, and behind the ears. The outbreak resembled markedly a lupus erythematosus, but the diagnosis of late syphilis was decided on, as a considerable amount of follicular scarring was noted.

**Ichthyosis(?).** Presented by DR. GASKILL.

The patient presented, a girl of fifteen years, gave a very indefinite history and the diagnosis was therefore somewhat obscured. There seemed to be an undoubted ichthyosis present, with the typical nutmeg

grater skin, particularly at the joints. There was also some exfoliation, like that found following the healing of blebs; there were also a few vesicles and blebs present. The patient stated positively that these blebs appeared every spring, would last a few weeks and then disappear.

DR. HARTZELL was of the opinion that it was a case of pemphigus.

**Morphœa(?).** Presented by DR. SCHAMBERG.

Dr. Schamberg exhibited a patient with a lesion strongly suggestive of morphœa, of one and one-half years' duration. The lesion was sharply margined, indurated and exhibited a condensation of the connective tissue and binding down of the skin. The condition started with a small red spot.

**Hyperkeratosis and Hyperidrosis.** Presented by DR. DAVIS.

A boy of twelve years was presented with a marked hyperidrosis of the hands and the feet. There was also present a marked keratotic condition, absolutely symmetrical. The relationship of the two was discussed by those present.

**Acne Rosacea Associated with Keratitis.** Presented by DR. SCHAMBERG.

A man of forty-five years presented a marked example of acne rosacea. The case, however, was exhibited because of the associated keratitis.

DR. KNOWLES mentioned that several cases of this type had been referred to him by Dr. Chance and drew attention to the paper written by the latter on this subject.

**Case for Diagnosis.** Presented by DR. GASKILL.

A female of twenty years was exhibited because of a palm-sized lesion, of two months' duration, upon the inner side of the left foot, below the internal malleolus. When the patient was first seen the lesion resembled markedly a bullous impetigo, but this diagnosis was considered scarcely tenable as the condition had lasted, as stated above, for two months. The outbreak was first noted as a very small spot and had spread peripherally, undermining the epidermis. The surface of the lesion was red and oozing. The spot was still spreading. The condition was very suggestive of dermatitis repens.

**Lupus Erythematosus of Unusual Distribution.** Presented by DR. PFAHLER.

The patient, a male of twenty-four, exhibited an outbreak of one and one-half years' duration upon the face and the index finger of the left

hand. The eruption on the face was noted on the nose and the ears; it was typical in appearance. There was also a patch, a silver half-dollar in size, slightly raised, sharply margined, reddish in color, somewhat scaly, on the dorsal surface of the index finger.

**Case for Diagnosis.** Presented by DR. GASKILL.

A female was presented for diagnosis, with an eruption of nine months' duration. A patch was noted on the left palm, the fingers, and also on one-half of the dorsal surface of the hand. The surface of this patch was oozing, with a papulo-vesicular, somewhat undermined border, resembling slightly dermatitis repens. The patient, however, had improved markedly under the internal administration of potassium iodide.

**Hypertrichosis Successfully Treated with X-rays.** Presented by DR. PFAHLER.

Dr. Pfahler presented a patient who exhibited a very satisfactory result, an extensive hair growth having been almost entirely eradicated with Roentgen ray exposures. The patient had been treated once every two weeks since last October. The skin, notwithstanding the numerous exposures, was in a healthy condition.

**Extensive Eczema Seborrhœicum.** Presented by DR. SCHAMBERG.

A man of thirty-five years presented an eruption of eight months' duration, in the groins, the inner surface of the thighs and in the axillæ. The patches were quite large, double-palm in size, thick, sharply margined, somewhat raised and of a serpiginous outline. The patches resembled markedly those seen in psoriasis.

**Tuberculosis Verrucosa Cutis.** Presented by DR. DAVIS.

An Italian barber presented a half-dollar-sized annular lesion, of nine years' duration. Apparently, from the history, the patient had phthisis ten years ago which was cured. Six weeks ago the patient became hoarse and the laryngologist diagnosed the condition as tuberculous laryngitis. The lesion on the index finger had a raised, verrucous, reddish-brown border which consisted of numerous tubercles; the centre was slightly depressed and healed. The histological picture showed a characteristic arrangement of giant-cells.

**Hodgkin's Disease Treated with Roentgen Rays.** Presented by DR. PFAHLER.

Dr. Pfahler exhibited a case of Hodgkin's disease that had responded successfully to X-ray treatment.

**Acquired Syphilis in a Girl of Eight Years.**

Presented by Dr.

KNOWLES.

The little patient was covered with a typical maculo-papular eruption. There was a general glandular enlargement, pharyngitis, anæmia, and in fact all of the usual signs of the disease. There were numerous mucous patches in the mouth and on the genitalia. The primary lesion could not be found, but probably was within the vagina. Gonorrhœa was also present. The source of contagion could not be determined, but evidently sexual intercourse had been the manner of inoculation.

DR. SCHAMBERG showed a series of pictures of Gangosa, taken on the Island of Guam. The pictures were presented through the courtesy of Dr. G. L. Angenny, of the United States Navy.

FRANK CROZER KNOWLES, M.D., *Reporter.*

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**MANHATTAN DERMATOLOGICAL SOCIETY.**

December, 1911, January, February, and March, 1912.

M. B. PAROUNAGIAN, M.D., *President.*

**Unilateral Dermatitis Repens of Crocker.**

Presented by Dr.

MACKEE.

This patient was a male, single, a laborer, born in Ireland; the eruption, which involved all the toes and a greater part of the dorsum of the foot, consisted of a severe dermatitis with exfoliation of the epidermis and an enormous exudation of serum. There was also some ulceration. The condition was of three weeks' duration and followed a few days after a slight traumatism.

**Epithelioma of the Nose, Improved under Vanadium Paste.**

Pre-

sented by DR. OULMANN.

A female of fifty-seven showed an epithelioma of three years' duration, occupying the entire left side of the nose. The edges were raised and there was a deep ulceration present. The patient refused surgical treatment or the use of the solid carbon dioxide; the X-rays were used. This was followed by the application of a paste made up of vanadium oxide powder. While it certainly had not the least effect on the development of the epithelioma, the ulceration was influenced. The entire centre of the lesion was healed, though the margins were still spreading.

**Prurigo Mitis.** Presented by DR. OCHS.

The patient was a boy of six. The eruption had been present since the child was two years old. It was always more severe in summer and almost disappeared in winter, though at no time was he entirely free of lesions. When presented he showed the characteristic lesions of prurigo mitis with an inguinal adenitis.

**Sarcoma of the Thigh.** Presented by DR. OULMANN.

The patient was a man, twenty-two years old. About fourteen months ago a barrel fell on his left thigh. A swelling resulted but there was very little pain. The patient was not confined to his bed. From the swelling a tumor developed. In three months it had assumed the size of an egg. The skin was not changed and the mass was freely movable and entirely painless. Excision of the tumor proved it to be a sarcoma. Two weeks after the operation the thigh began to swell at the site of the operation. The skin was firmly adherent to the new mass. The wound resulting from the excision did not heal until the patient had received a number of fibrolysin injections. The resultant scar was markedly keloidal and extended down about seven inches. The inguinal glands on the same side were very much enlarged and formed a tumor mass much larger than the original tumor. A radiograph showed the femur to be free. The pain in the thigh was then severe enough to keep the patient awake. The left thigh measured 26 inches in circumference while the right thigh only 16. The thigh was being exposed to the X-rays. The pain was somewhat less though the tumor mass was continually growing.

**Benign Pemphigus in a Colored Infant.** Presented by DR. OCHS.

Two weeks ago the mother of the patient noticed a few small bullæ on the legs; a few days later similar ones appeared on the hands. They appeared as vesicles but soon became bullous and pustular. When presented, there were on the legs and on the body, numerous bullæ of all sizes and in various stages. They appeared to arise from normal skin. There was no evidence of pruritus. On the palm of the left hand were numerous vesicles.

DR. MACKEE said he thought that the diagnosis of epidermolysis bullosa should be considered, as many of the lesions seemed to be at locations subjected frequently to traumatism and because the bullæ were unusually large for benign pemphigus.

**Dermatitis Papillaris Capillitii.** Presented by DR. PISKO.

The patient was a male adult. The disease began a short time ago with the appearance of a small papule which was intensely itchy. Continued irritation from scratching resulted in the present condition.

**Prurigo Mitis in Brothers.** Presented by DR. OCHS.

A boy of seven had had an itchy eruption for the last five years; his skin was never free since the eruption first appeared. The condition improved with cold weather and was intensified with the hot weather. When presented he had on the extensor aspects of the arms and legs a large number of small and larger superficial and deeper papules, most of which showed evidences of having been scratched. Among these lesions were numerous pigmented spots, the remains of previous lesions. Marked inguinal adenitis was present. The second case was in a boy of fifteen months, a brother of the above; he was having his first attack which was very mild and started three months ago. The lesions were confined to the extensor aspects of the extremities. Inguinal adenopathy was slightly evident.

**Tuberculide.** Presented by DR. MACKEE.

The patient was a female adult. This was the patient with a questionable tuberculide of the hands and forearms that had been presented on several occasions to other dermatological societies for the purpose of diagnosis. When presented this time there was a new crop of lesions upon the hands, with necrotic centres, while many of the lesions on the fingers were nodular in type with a tendency to ulceration; they presented a picture usually regarded as pernio. The exhibitor still considered the case as one of tuberculide.

DR. KINGSBURY did not accept Dr. MacKee's diagnosis as presented. He stated that several years ago this same patient had been treated by a colleague at the Skin and Cancer Hospital for a gumma of the neck. The woman was inclined to be stout and was beyond the age when a papulo-necrotic tuberculide usually commenced. While some of the lesions on the back of the hands were quite suggestive, none of them were typical.

**Von Recklinghausen's Disease Improved under Arsenic.** Presented by DR. PAROUNAGIAN.

The patient was a male of nineteen; the condition was present for fifteen years. There were numerous variously shaped and different sized tumors scattered all over the body. They were soft, elastic and painless; situated just below the right knee was the largest, about the size of an egg. Since the case first came under observation there had been a steady improvement under the administration of arsenic in increasing doses. Some of the larger lesions had left a slight discoloration behind. The case will be again presented at some future meeting to note the further improvement if any should take place.

**Dermatitis Herpetiformis.** Presented by DR. PAROUNAGIAN.

The patient was a male of twenty-three. About the middle of July he had an attack of ivy poisoning. At that time the eruption itched very

severely. He used bicarbonate of soda and the eruption disappeared. At about the middle of September another outbreak occurred, spreading to his hands, arms, body and face with severe itching. When seen by the speaker on October 2d, the diagnosis of dermatitis venenata was made. But the source of the lesions did not correspond to the clinical picture of that disease, so that the diagnosis of dermatitis herpetiformis was made. The lesions were grouped, vesicular and intensely itchy. While some of the vesicles were disappearing, new ones in crops appeared all the time. The condition did not yield to the best methods of treatment for dermatitis venenata.

### **Pemphigus Vegetans Improved by Four Exposures to the X-Ray.**

Presented by DR. WEISS.

The patient was a female, aged twenty-two. She was presented in October for a rapidly spreading, ulcerating and vegetating condition of the genitals, perineum, etc. The patient left the hospital unimproved. At the German Poliklinik, she was at four different times (at the suggestion of Dr. MacKee) exposed to the X-rays with a marked improvement resulting very rapidly. The vegetating margins had disappeared; only some thickening was left with some staining at the borders.

### **Onychomycosis in an Infant.** Presented by DR. OCHS.

The patient was a female infant. Early in July it was noticed that the child had hangnails which she bit and tore off. Shortly thereafter the nail-bed became infected and pus exuded therefrom. It was then noticed that the nails became brownish in color and broke off in splinters. Gradually all the fingers except the small finger of the right hand became affected. Scrapings from the nail-bed revealed the trichophyton.

### **Glossitis Syphilitica Superficialis.** Presented by DR. GOTTHEIL.

The patient was a man of nineteen; the chancre was first noticed June 28th; he received a few mercurial injections at the Post-Graduate Dispensary. The tongue had been sore since the end of August. The patient was first seen on November 26th; the remains of an eroded, indurated lesion of the glans was still present, as was also a macular exanthem. There were also a pharyngitis syphilitica with mucous patches of the arch of the palate, and the lesions of the tongue. This organ presented a deep transverse fissure at about its middle, with contracture and deformity; three years ago, in a fall his tongue was nearly bitten off, and was sewed up at the Harlem Hospital. The entire upper surface of the tongue was white with swollen epithelium, and studded with superficial, circinate, red, glistening patches. The deeper tissues of the organ were not involved. So serious and extensive an involvement of the buccal and lingual mucosa during the very early stages of the infection, appearing coincidentally with the first exanthem, was unusual.

**Chancre of the Anus.** Presented by DR. OCHS.

The patient was a boy of fifteen; the induration was still present. He had a macular eruption and a general adenopathy; there was a positive spirochætæ finding and a positive serum reaction. The brother of the patient had a chancre of the penis.

**Chancre of the Penis.** Presented by DR. OCHS.

This was a young man of nineteen; he showed a typical induration, adenopathy and eruption. This patient was one of four infected by the same female, sixteen years old, an habituée of a Bronx dance hall. The patient with the chancre of the anus was the younger brother of this patient.

**"Eczema Mycoticum."** Presented by DR. WEISS.

The patient was a female of forty-five. The condition was present for some time on the posterior aspect of the legs. The lesions varied in size from one-half inch to three inches in diameter, were sharply circumscribed, somewhat violaceous in color; the borders were somewhat infiltrated; there were clearing atrophic centres and a few isolated papules just beyond the margin. The lesions resembled large psoriatic patches which had been cleared of their scales. They appeared slightly inflamed. The patient complained of heat and pain in them.

**Prurigo.** Presented by DR. BLEIMAN.

The patient was a boy, five years old, born in this country and the only member of the family with any skin trouble. The father stated that the boy's skin had never been clear since he was one year old. From the description given, the speaker presumed that the original lesions were of a papular-urticarial or papular-eczematous character. During the summer months the skin would nearly clear up, but never entirely so. The present condition was of more than six months' duration and involved the arms, chest, abdomen and back and lower extremities, being most marked on the upper and lower extremities. The face was likewise involved. The extensor surfaces of the limbs mainly were affected. The flexor surfaces of the arms and legs were slightly eczematous, but the involvement of the latter surfaces did not mitigate against the diagnosis. Adenopathy was quite marked.

**Eczema Orbicularis.** Presented by DR. PISKO.

The patient was a female, aged ten. For the last few years she had had repeated attacks of sores around the lips, remaining for a few days, improving and relapsing. The present attack had been somewhat more resistant than most of the others. Around the entire mouth was a scaly



area surrounded by an erythematous border about one-quarter of an inch wide.

Dr. KINCH found no seborrhœa anywhere else. He did not accept the diagnosis but considered the condition a dermatitis from some irritant.

**Chancre of the Leg.** Presented by DR. GOTTHEIL.

The patient was a girl of fifteen, sent to the House of the Good Shepherd on March 17, 1911. About the middle of July she noticed a small sore on the front of her right leg; this continued to grow larger, but received no attention for six weeks. Three weeks after the sore first appeared an eruption began, first upon the legs, and then gradually spreading over the whole body. The original sore on the right leg was not painful and did not discharge much, which was perhaps the reason why so little attention was paid to it. In the early part of September an ulcerative lesion, similar to that on the right leg, but smaller, appeared on the corresponding tibial surface of the left leg. She was admitted to the City Hospital, September 25th. On September 30th, the serum reaction was reported markedly positive. On the middle third of the anterior surface of the right leg was a deep ulceration  $1\frac{1}{2}$  inches in diameter, sharply circumscribed, not painful, with very little inflammatory reaction around it, and with a not very definite induration at its lower margin. On the corresponding area of the left leg was a similar ulceration some  $\frac{3}{4}$  of an inch large, equally painless, but with no trace of induration. General adenopathy and a general, grouped, miliary and papular exanthem were present. No genital lesions save a gonococcal vaginal discharge were noted. There were no buccal lesions.

The patient could not be presented in person owing to the fact that she was a prisoner. The points of interest were: the unusual site of inoculation; and the fact that the inoculation took place while in the institution, where she had been four months before the chancre appeared.

**Onychomycosis.** Presented by DR. GOTTHEIL.

The patient, aged twenty-one, was a Russian clothing cutter, and had had trouble with his nails for six or seven years. The affection began at the root of the nail and spread to the margin. The splitting up of the nail was worse in summer than in winter, so that sometimes at the former season the whole nail fell off. The new nail looked well at first, but soon exhibited the same abnormalities as the old one. The affection was confined to the hands, the toe nails being entirely normal. On the right hand all the nails save the thumb were involved; on the left hand only the index and middle fingers showed the lesion. The nails were greatly thickened, discolored sulphur yellow, irregularly dark or black in places, and splitting up into large flat lamellæ. This splitting was most marked at the distal end of the nail, where the discolored and partly detached lamellæ were irregularly broken off by use, or were largely

removed by the patient for cosmetic reasons. The picture was a typical onychomycosis, in spite of the facts that only certain nails were involved, that the patient claimed that the disease began at the root and not at the free border of the nails, and that he showed no evidence on the scalp of present or past favus. The microscopic examination of the scales showed an abundance of characteristic spores, but no mycelium.

**Lupus Erythematosus.** Presented by DR. PAROUNAGIAN.

The patient was a man, aged twenty-eight, an American, married. The father was living, the mother died of consumption, one brother and one sister died of laryngeal tuberculosis.

His present condition started about a year ago in the ear, in the form of a "blotch," which spread to the right cheek, over the nose, involving both sides of the face, giving the appearance of long side whiskers. The lesions were erythematous in character, somewhat elevated and purplish in color. The scalp was entirely free but both ears were involved.

**Pityriasis Rosea.** Presented by DR. PAROUNAGIAN.

The patient was a female infant, ten months old; the mother stated that eight weeks before the child was brought to the Gouverneur Hospital clinic, a round patch had appeared on the right side of the abdomen, which was followed two weeks later by a more generalized eruption, involving the greater portion of the trunk, the arms and the upper portions of the thighs.

The speaker had seen the patient six weeks after the eruption had developed. The scalp and face were entirely free; the lesions on the body were circinate, somewhat scaly and pinkish-yellow or salmon in color; they were more abundant on the sides of the chest and on the buttocks.

From the history obtained, the age of the patient was eight months when the disease first developed. The youngest case reported by Crocker was seven months old.

**Generalized Lichen Planus.** Presented by DR. MACKEE.

The patient was a male, twenty-four years of age, who came from Dr. Fordyce's clinic. There was a generalized eruption, consisting of polygonal papules with flat tops and violaceous color. The duration of the eruption was six weeks. Pruritus was intense. Around the elbows the lesions were hypertrophied, while on the forearms there were three annular plaques. The eruption was beginning to involute under the administration of mercury.

**Psoriasis Simulating Syphilis.** Presented by DR. MACKEE.

The patient was a man, thirty-five years of age, from Dr. Fordyce's clinic. He presented a typical psoriasis distributed over the body. On

the face and neck, however, were unusual circinate, gyrate and annular lesions markedly resembling syphilis. The Wassermann reaction was negative. The case was simply presented to show how closely psoriatic lesions could simulate syphilis.

**Acne Necrotica.** Presented by DR. PAROUNAGIAN.

The patient was a man, forty years old, a Russian; he gave the history of having these recurrent attacks since he was four years old. The present outbreak started about two months ago. The lesions consisted of acne papules and pustules and crusts, mostly confined to the forehead, though scattered lesions were visible on the scalp and beard. Some of the older lesions had varioliform or necrotic scars. While some of the older lesions were healing, new ones were appearing. White precipitate ointment improved the condition remarkably.

**Lupus Erythematosus.** Presented by DR. PAROUNAGIAN.

The patient was a female of fifty-one, a Russian; the family history was negative. The condition started on her face about four years ago. It gradually spread, affecting other areas. The location of the original lesion was about one-half inch below the right eye, almost on a direct line, extending to the side of the nose and a similar lesion at about the same location on the left side. The remainder of the lesions were scattered on the forehead along the hairy border, in front and in back of the ears and some in the conchas. They were pin-point to bean sized spots or patches with discrete, violaceous borders, the centres slightly scaly, most of them elevated, but a few with depressed centres. The scalp was very scaly and covered with numerous erythematous lesions, mingled with distinct patches of alopecia. On the back above the scapulæ, there were a number of acneform lesions, similar ones being present on the chest. They were very small, though characteristic lesions of lupus erythematosus. The patient stated that the only subjective symptom was a slight itching at times. All the lesions improved during the cold weather and the patient was very much more comfortable in the winter.

**Lupus Erythematosus.** Presented by DR. PAROUNAGIAN.

The patient was a woman, thirty years old, a Russian; the father was living, the mother died of pneumonia. Four sisters and two brothers were living, one brother died of pulmonary tuberculosis and one sister was troubled with a cough.

The duration of her condition was three years for the lesions in the concha of the ear and on the scalp, while the lesions on the face had been present four months.

The scalp lesion was situated at the junction of the sagittal and coronal sutures; it was a single lesion, about the size of a silver quarter,

resembling alopecia areata with one exception, that is, the pronounced atrophy.

The lesions in and about the ear were typical lupus erythematosus lesions, violaceous in color, with thin whitish scales and atrophic areas. The case was presented on account of the pronounced tubercular history in the family.

#### **Trichophytosis of the Beard.** Presented by DR. OCHS.

The patient was a man of thirty-eight. Six months ago he had a superficial ringworm on the left cheek. He was variously treated. About one month later he noticed that he was developing hard nodules in the chin. When presented the examination revealed hard, large, infiltrated masses on the cheeks and chin, many of them suppurating. Microscopical examination showed trichophyton.

DR. PAROUNAGIAN advised the use of the X-rays, if possible. If not, the use of an application for ten minutes at a time of a solution of 1-2000 bichloride of mercury, then covering the parts with a 5% salicylic plaster.

DR. MACKEE said that from a superficial examination he would not suspect the sycosis to be due to the trichophyton. Usually in these cases one would see fungating lesions or large abscesses or at least marked follicular involvement. The speaker thought that this was an ideal case for X-ray treatment, particularly with the single-dose method. One application of one Holzknecht unit would probably produce a complete cure. In some instances it was not necessary, the speaker said, to cause an epilation, for not infrequently a dose that was just inside of that required to epilate would so modify the soil that the disease would get well; but it was safer and wiser to give an epilating dose.

#### **Tuberculide.** Presented by DR. PAROUNAGIAN.

The patient was a female, twenty years old, an Austrian; the family history was negative. The duration of the condition was one year; the lesions were situated on the dorsal surface of the index finger, on the elbow and the forehead. Some of the lesions were healed, leaving necrotic scars, others were developing; they were indurated, purplish in color, one on the index finger being warty in appearance. She had never been treated and gave no subjective symptoms.

DR. MACKEE advised treatment with tuberculin. He had found the best results to be obtained by the use of a geometrical method; that is, to begin with about 1-5000 of a milligram and progress at the rate of 25% increase in the dose each week. Whenever there was much ulceration, the speaker said that staphylococcic vaccine could be added to the tuberculin.

#### **Vaso-Motor Asphyxia.** Presented by DR. KINCH.

The patient was a female, aged thirty-four, a Hungarian. For eight years she had been troubled with cold hands and feet, especially in the winter. When exposed to the cold the fingers were dusky in color and remained so for a long time after being warmed. An ulcer as large as a silver dollar on the left leg had been present for years; it was not

very deep and the edges were not indurated nor undermined. The patient had a mitral insufficiency.

Dr. MacKEE said that these cases usually terminated in pronounced atrophy of the terminal bones. This had been shown time and time again by radiography.

**Gumma of the Tongue; Local Hyperidrosis; Aneurysm.** Presented by Dr. PAROUNAGIAN.

The patient was a man, twenty-nine years old, married, a Russian, and had gonorrhœa ten years ago; he denied having had a chancre; he had three healthy children.

He applied to the Gouverneur Hospital clinic for the sore on his tongue, which was near the tip, ulcerated, covered with yellowish pus, rapidly destroying the organ. Dr. Garbat kindly made a Wassermann test which was four plus. The man had a swelling below the left ear; upon examination, this was determined to be an aneurysm of the external temporal, a branch of the internal maxillary artery. It was apparently caused by a stab wound which he had received about eight years before; while he was in the hospital the swelling appeared. The patient also demonstrated by eating an apple, the local hyperidrosis which appeared at the temporal region just above the left ear; beads of perspiration appeared, which upon continuation of mastication ran down the face freely. This phenomenon was apparently caused by the severing of the vasomotor nerves controlling the sweat apparatus of that region.

**Xeroderma Pigmentosum.** Presented by Dr. GOTTHEIL.

This patient, aged four years and two months, robust and developed physically and mentally above his years, was said to have had a perfectly normal skin until he was five months old. At that time he was left in his baby carriage for six hours exposed to a bright summer sun; and on the evening of that day the first freckles were noticed. It was to be noted that the child had been brought to various clinics and specialists during the last two or three years, and that his case had naturally excited much interest and discussion; and that it was possible that this very explicit history of the origin of the malady may have been a suggested explanation due to what his brother or father, being fairly intelligent people, had heard. The history was that the freckles had remained ever since, and had grown worse; and it was for the relief of these, which was the only abnormality that his parents were aware of, that he was brought to the Post-Graduate Clinic.

Examination showed, however, that whilst the skin on the covered parts of the body was perfectly normal, that of the face and neck, and of the forearms and hands, showed much more serious changes. On the backs of the forearms and hands the integument was moderately thickened and roughened, and showed only a number of lentiginous spots or small pigmentary nævi. On the face, however, the process was much

more advanced. The entire skin was thickened, roughened, and finally scaly. It was studded with pigmentations, especially around the eyes and on the lobes of the ears, and varying in color from a light yellow to a dark brown. Very noticeable were the vascular changes, which were especially marked around the nose and on both surfaces of the ear lobes. These consisted of telangiectases of all kinds, most of them minute, but others composed of larger vessels. Some were red and others were bluish in hue; and between them and more especially on the ears were large and long dilated vessels of both colors. On the cheeks there were three papillary lesions, small pea in size. They were verrucous in character, looking like ordinary papillomata; the parents stated that they had been removed by scratching many times, but they always returned, and apparently worse than before. A close examination of these lesions revealed the presence of a small, hard, pearly base that was plain evidence of the degenerative process that was going on. These warty growths had been present only for a year past.

There was no xeroderma in the other members of the family, several of whom the speaker had seen. The fact that degenerative changes had begun so early led the speaker to believe that this case will be fairly rapid in its progress. The condition reminded one irresistibly of two other conditions, of which a number of cases had been seen in this society recently. The first was that of chronic radiodermatitis, with its atrophies, pigmentations, telangiectases, papillary growths, and degenerative foci; and the second was that of senile changes of the skin, in which all the above lesions were also seen. It was suggestive of the idea that in predisposed skin in youth, and in old skins, the chemical sun rays may cause the same changes as those occasioned by the X-rays.

DR. POLLITZER said that this condition seemed to be influenced by the action of the actinic rays of the sunlight. According to Unna this character of skin should be protected by some coloring matter to filter out these rays to prevent further damage to the skin. The prognosis was, of course, hopeless.

### **Molluscum Contagiosum in a Colored Woman.**

Presented by

DR. OCHS.

The patient was a female, colored, aged twenty-four. She presented on the back of the neck from thirty to forty distinct, isolated, somewhat elevated and characteristic lesions of molluscum contagiosum. The contents of some of the lesions were expressed and examined microscopically. Molluscum bodies were found. When presented the patient had been under treatment.

DR. POLLITZER said that he did not accept the diagnosis of molluscum contagiosum. He was inclined to the diagnosis of syphilis but should want further evidence of that disease.

DR. MACKEE said that he could see nothing indicating molluscum contagiosum in this case. He failed to see the umbilicated, waxy appearing tumor that was so typical of the disease. He would be more inclined to call the case, from a

clinical standpoint, as either lichen planus or syphilis, as the lesions were papular and solid. The speaker said, however, that he had very little confidence in his ability to diagnose eruptions on the colored skin. He suggested that these lesions might have been greatly modified by treatment.

**An Unusual Type of Cutaneous Tuberculosis.**  
DR. WISE.

Presented by

This woman was twenty-eight years of age, a Swede by birth, and a governess by occupation. Her family and personal histories were negative. During the last year or so she had been presented before several dermatological societies, where widely diverging diagnoses of her lesions were made. She had had on the inner surface of the right thigh and knee about a dozen lesions, flat, moderately infiltrated, reddish-brown in color, well circumscribed and ranging in size from a large pea to a silver half-dollar. At the time of presentation, most of the lesions were replaced by slightly sunken, atrophic, deeply pigmented scars, the result of treatments with caustic applications and the X-rays. The entire duration of the disease was about five years. The diagnosis of tuberculosis of the skin was corroborated by the microscopic findings.

DR. GOTTHEIL did not agree with the diagnosis of cutaneous tuberculosis and was inclined to regard the case to be one of syphilis.

DR. WILE said that when the case was first seen it suggested an annular lichen planus or a syphilide. The biopsy revealed a very superficial granuloma, the infiltration being much more confined to the upper layers than one usually found in lupus vulgaris. Tubercle bacilli were discovered in a few of the sections, thus establishing the diagnosis of a superficial tuberculosis of the skin. Under such a title the case had been reported by Dr. Howard Fox, in *THE JOURNAL* for October, 1911, xxix, No. 349.

**Pityriasis Rosea.** Presented by DR. PAROUNAGIAN.

The patient was a boy, four years old, who was seen at the Gouverneur Hospital clinic a few days ago for his skin affection. The duration was about two weeks; the first lesion was noticed below the left breast; it was oval in outline, pinkish in color and scaly. A few days later the eruption spread to the rest of the trunk, arms and upper portion of the thighs. The face and the lower extremities remained entirely free.

There was nothing unusual about the case, excepting the age of the patient.

**Case for Diagnosis.** Presented by DR. PAROUNAGIAN.

The patient was forty-one years old, an engineer, born in the United States, married. His family history was negative; he denied having had a chancre. The lesion, which had existed for about twelve years, was situated on the dorsal aspect of the glans penis; it was oval in shape, about 1 by 1½ inches in size, the edges were sharply defined and somewhat elevated, scaly and dry. He did not complain of itching; the Was-

sermann reaction was negative. Two years ago, he was told by a physician that his lungs were affected and he went to New Mexico for some time. White precipitate ointment with 2% of salicylic acid removed the scales, leaving sharply defined margins and when the treatment was discontinued the scales would reappear.

Dr. Pisko found distinct waxy papules and considered the condition to be lichen planus.

### **An Ulcerated, Indurated Lesion of the Tongue; for Diagnosis.**

Presented by DR. BLEIMAN.

The patient was a man of sixty-five; he was first seen by the speaker on February 13th; in the median line of the tongue, about one inch posterior to the tip was an ulcerated lesion. About three weeks ago a small papule appeared on the dorsum of his tongue which in a few days evidently broke and left a fissure. The papule became larger and the fissure deeper until its present size, which was fully one inch in its antero-posterior diameter and one-half inch in its lateral diameter. The edges were not sharply defined but were slightly raised, the fissure was fully a quarter of an inch deep and the entire ulcer somewhat indurated and crateriform in type. The ulcer was hard to the touch and bled freely when palpated. The submental glands were only very slightly sensitive and a single one in the median line was only slightly enlarged. The venereal history of this patient was negative. There was no adenopathy, no eruption and no other lesions on the skin or mucous membranes. Dr. Bleiman suggested either epithelioma or syphilis.

Dr. GOTTHEIL said that the general character of the lesion was not that of syphilis and considered the lesion to be a rapidly growing epithelioma.

Dr. POLLITZER said that, clinically, he considered the lesion as probably an epithelioma. The border, its slope and the crateriform character of the central portion of the ulceration were strongly suggestive, however, of an initial lesion of syphilis.

Dr. KINCH thought that the induration of the lesion was not that of a chancre; it was too boggy; the glandular adenopathy was not characteristic enough for a primary sclerosis; he considered the lesion to be an epithelioma.

Dr. WILE believed the lesion to be epitheliomatous; it was very evidently not a gumma, and the fact that it was an ulcer and not a raised lesion, together with the small, hard glands accompanying it, spoke against the diagnosis of a primary syphilitic lesion. In all the cases he had seen, the adenopathy accompanying chancres of the tongue had been a very marked feature, whereas here it was like the small glands accompanying cancer. He considered the lesion to be an epithelioma.

Dr. MacKEE said that such lesions always gave him a great deal of trouble in regard to the diagnosis. In this instance there was not the indurated edge that one usually found in epithelioma, but the induration was under the tumor just as one would expect to feel in a chancre. In addition, the short duration of the lesion with the prompt occurrence of an adenitis decidedly favored the diagnosis of an initial lesion.

Dr. Ochs said that on account of the general characteristics of the lesion he considered it a typical initial lesion of syphilis.



**Case of Ulcerated Indurated Lesion of the Tongue.** Presented by  
DR. BLEIMAN.

The patient previously shown in the February meeting was seen again on February 19th; the tongue lesion showed about the same condition. Upon examining the skin, it showed for the first time a typical maculopapular eruption. The chest, abdomen and back were profusely studded but the upper and lower extremities sparingly so. There was no change in the adenopathy. A smear from the tongue lesion showed abundant spirochætæ. The Wassermann reaction was also positive. On March 22d his eruption was fast disappearing under treatment and the tongue lesion was almost healed.

**Lupus Vulgaris Treated with X-Rays.** Presented by DR. WISE.

The patient was a female, aged fifty, a Bohemian. The lesion occupied the entire lower portion of the left side of the face and parts of the chin. It began fifteen years ago and had been treated in a desultory way for a number of years, without showing improvement. Four years ago X-ray treatment was instituted, and had been kept up, with periods of intermission due to intercurrent illness, to the present time. With the exception of two or three uncured nodules at the edge of the patch, the lupus was replaced by a smooth, glistening, atrophic scar.

DR. GOTTHEIL remarked that four years seemed a long time to bring about the present result.

DR. WISE said that in a case of this extent, a period of treatment extending over five or six years was not considered excessively long at the Fin-en Institute in Copenhagen, as he had been informed.

**Extensive Chromophytosis in a Colored Man.** Presented by DR.  
OCHS.

The patient was a man of fifty-four, colored. The entire anterior aspect of the chest down to the umbilicus as well as the entire back was affected; also the upper part of the right arm down to the elbow and a few isolated lesions on the left arm and shoulder. The condition had been present for five years and had never been treated. The case was presented on account of the extensiveness of the disease in a colored adult.

**Malignant Syphilis.** Presented by DR. PISKO.

The patient had a general, small and large tubercle-ulcerative rupial syphiloderm and a tubercular eruption of the tongue with ulceration of the palate and uvula.

**Herpes Menstrualis.** Presented by DR. PISKO.

The patient was a female of twenty-one. For some time past, with each menstruation, groups of vesicles appeared. With the present men-

struation a number of groups on the lower extremity were noticed. With the previous menstruations similar lesions appeared on the upper extremity and on the body. The precursor of the vesicles was an intense itching and burning. No scars nor atrophy were present; only a slight pigmentation marked the site of previous lesions. The duration of the present attack was three months.

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## REVIEW OF DERMATOLOGY AND SYPHILIS.

Under the direction of

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## ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(1912, cxiv, No. 2.)

Abstracted by UDO J. WILE, M.D.

### THE HISTOLOGY AND PATHOGENESIS OF PSORIASIS. PAUL HASLUND.

This paper is an exhaustive monograph concerning the theories of the pathogenesis of psoriasis and likewise a most detailed review of the histo-pathological findings as well as the micro-chemistry of the disease. The changes in the epithelium are those of either acanthosis or para-keratosis. A third change, entirely independent of the epithelium, but nevertheless of some significance in the appearance of the surface of the lesion is the serous exudate, but more particularly that of cellular nature.

The paper is not completed and will be concluded in a subsequent number.

### ARE THE SPIROCHÆTÆ RELATED TO THE PROTOZOA OR TO THE BACTERIA? K. DOM and H. HIDAKA, p. 493.

Dohi and Hidaka detail in this article the results of their serological experiments with a view to determining the nature of the spirochætæ. For their material they used the spirillum of relapsing fever working with the try-

panosoma brucei as a control of a true protozoan and with the spirillum rubrum and vibrio as a control of true bacteria. Their experiments were in the nature of complement fixation tests with the serum of rats and mice immune to relapsing fever. They also carried on agglutination and hæmolysis tests with the serum of rabbits infected with relapsing fever and the various trypanosomiasis and also with the two vibrio forms before mentioned, of spirillum rubrum and vibrio Nordhausen. They conclude from the results of this experiment that the spirochætæ from a biological standpoint, point rather to a relationship to the protozoa. Between bacteria and spirochætæ the immunity reactions tend to show no biological relationship.

CONTRIBUTION TO THE KNOWLEDGE OF BROCC'S DISEASE. (ERYTHRODERMIE PITYRIASIQUE EN PLAQUES DISSEMINÉES.)  
CALLONON, p. 503.

The author reports here in detail a case of the Brocq type of the scaling erythrodermia with the histo-pathological findings in the case and an excellent colored plate showing the distribution of the lesions. The findings were exactly in accord with those of other observers and particularly with the clinical picture described by Arndt.

THE ELIMINATION AND METABOLIC CHANGES FOLLOWING THE  
INTRODUCTION OF SALVARSAN INTO THE HUMAN ORGANISM. KARL ULLMAN.

This monograph is the result of exhaustive research on the elimination of arsenic following the use of salvarsan. The work was done on the urine, sweat and stools in a number of cases and also the organs of various laboratory animals were subjected to injections of salvarsan; various methods of introducing salvarsan into the system were practised in the experiments, and in the case of animals, with subcutaneous and intravenous injections and likewise intraperitoneal.

Other arsenic preparations, particularly Fowler's solution and atoxyl were also used for comparing results with those of salvarsan. The conclusions are as follows:

1. Quantitative experiments for determining the combination of arsenic with organic substances from animal dejecta and organs, require simplification in order that uniform results may be obtained.
2. Salvarsan is relatively more difficult to absorb and more difficult to precipitate in the body economy than other organic arsenic compounds and particularly than mercury, either when administered intramuscularly or intravenously.
3. The author's chemical experiments as well as those of others give no justification for the belief that there is a great organotropism, particularly neurotropism. Only relatively small amounts of arsenic are found in either the liver or spleen, whereas relatively much is eliminated in the gastro-intestinal canal, no matter what the method of administration. The brain and the nerve substances in general contain a minimum amount of arsenic,—in fact not quantitatively determinable. This fact speaks against the neurotropism of salvarsan. This of course, is particularly true for single doses or those given at long intervals, when the eliminative organs are intact. In the blood, following the intravenous injection of salvarsan, there is at first a large amount of arsenic; very soon, however, after several hours, only a minimum amount of arsenic persists. After an intramuscular and subcutaneous injection, only infinitesimally small amounts, scarcely to be estimated, persist for many months. The blood plasma

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therefore cannot be regarded as anything but the filtering station for arsenic and is in no sense a depot of deposit.

### CONTRIBUTION TO THE KNOWLEDGE OF MYCOSIS FUNGOIDES.

ANT. TRYB, p. 571.

A report of a case of mycosis fungoides with an elaborate histological study of the lesions. The patient died and at autopsy, in spite of most extreme emaciation and long years' duration of the disease, there was little or no evidence of visceral metastasis. There is nothing new in this report.

### A STUDY OF THE CHEMISTRY OF THE VESSEL WALLS IN INFLAMMATION. C. KREIBICH, p. 585.

The author has detailed some most interesting microchemical tests which he made in certain types of inflammation. The changes were first found in sclerosis in which, by staining with scarlet red or Sudan, there was demonstrated in the endothelial cells a certain amount of lipid substance. Accordingly, he investigated artificially produced lesions of the mildest type. In inflammation following epilation in the ear of a rabbit, he was able to demonstrate the presence of this lipid substance in the endothelial cells of the blood vessels,—also in the same cells in inflammation produced by burning superficially with a heated glass rod. The lipid substance was found there as fine droplets dusted over the entire protoplasm of the cell or, by confluence of such fine droplets, in the form of a ring around the nucleus of the cell. At the same time, there was demonstrable a degeneration in the medullary nerves; Kreibich regards it possible that the lipid substance found in the endothelium and occasionally even outside of the cells, finds its source in the nerve degeneration. This degeneration he regards as certainly traumatic. Such changes in the endothelium not being present in all types of inflammation, one cannot assume the abnormal permeability of the vessel walls in inflammation to be due to this cause. In the cases, however, where lipid substance is demonstrable in the protoplasm of the endothelial cells, this change certainly speaks for the altered chemistry of the cell.

### A HISTOLOGICAL AND EXPERIMENTAL STUDY OF SALVARSAN DEATH. T. H. v. MARSHALCKO and D. VESZPREMI, p. 589.

The authors conducted an interesting set of experiments with laboratory animals carefully controlled, to determine the exact cause of death following infusion of salvarsan. They were able to study histologically the tissues of a patient who died following an injection. To determine the toxicity of salvarsan itself and the so-called "water error," that is, the question of bacterial endotoxins in water which has not been freshly distilled, they injected rabbits with various doses of salvarsan which had been mixed with distilled water and ordinary undistilled water, as well as with the emulsion of bouillon cultures of such undistilled water. Their results led them to the following conclusions:

1. The so-called encephalitis death following infusions of salvarsan is caused by the toxicity of the drug itself, as one can prove by pathological examination of laboratory animals injected in the same way as patients who died following the treatment. In such cases, there is no actual inflammation but multiple hæmorrhages in the brain caused by stasis and thrombosis. All clinical symptoms, such as loss of consciousness and epileptiform convulsions are readily explained by such hæmorrhages. Any great change in the nerve substance itself is absent.

2. The so-called "water error" plays no real part in this intoxication. The toxicity of the salvarsan in animal experiments is uninfluenced, even in large

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doses, by the presence of bacterial endotoxins from the water. It would appear that this toxicity finds an explanation in too large a dosage of the drug.

3. It is therefore earnestly recommended to begin with small, careful doses, particularly in the first intravenous injection. Such small doses have exactly the same therapeutic value as larger doses, and they are certainly without danger as far as symptoms of intoxication are concerned.

### DERMATOLOGISCHE WOCHENSCHRIFT.

(Feb. 8, 1913, lxvi, No. 6.)

Abstracted by FRED WISE, M.D.

#### SCLERODERMIA-LIKE CHANGES IN THE SKIN FOLLOWING SCURVY. WILHELM LIER, p. 157.

Lier reports the case of a man 33 years old, who, following an attack of severe scurvy which was cured by appropriate remedies, presented patches of sclerodermia of both lower extremities, especially marked in those regions where the skin and fasciæ lie close together, with little intervening tissue between the two layers, as at the knees and ankles.

A biopsy showed the epidermis to be normal, its basal cell layer showing some excess of pigment. The changes affected the corium exclusively, especially the subpapillary and deeper layers thereof, and the connective tissue strands dipping into the subcutaneous fatty layer; the collagenous fibres of the subpapillary layer were widened and showed spots of hyaline degeneration; the lymph spaces between them were broadened; the fibres lying near the stratum subcutaneum were closely pressed together, giving the appearance of a dense tissue resembling tendon. The walls of the blood vessels were thickened; there was a moderate infiltration composed of mononuclear cells and abundant collections of iron-bearing pigment. The infiltrate as well as the deposits of hæmosiderin were also found in the septa of the connective tissue which dipped down into the subcutaneous tissues. The elastica of the subpapillary stratum showed an abundant new formation of the finest elastic fibres.

This is the second case of its kind described in the literature, the first having been reported by Ehrmann in 1895.

#### THERAPEUTIC EXPERIMENTS WITH SULFOFORM (TRIPHENYL-STIBINSULFID). ALFRED STERNTHAL, p. 162.

This substance is said to be over one hundred times more effective in its action than precipitated sulphur, at the same time causing no inflammatory reactions of the skin. In alopecia seborrhœica he obtained results which proved to be no better than those reached by ordinary forms of sulphur; in sycosis parasitaria the remedy acted fairly well; in sycosis trichophytina the drug showed no advantages over other remedies; in scabies, on the other hand, the results were excellent; in parasitic eczema it acted very well, but in the acute, exudative forms of eczema, the author found no benefit from the sulfoform; in chronic dry eczemas and in the scaly eczemas of the face, the action of the drug seemed to be highly satisfactory; the same may be said of acne, pityriasis rosea and impetigo contagiosa. The sulfoform is used in different strengths and is incorporated in various vehicles to suit each case and type of disease. In conclusion Sternthal states that he found the remedy to be more efficacious, in many cases, than the usual sulphur preparations in common use.

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### CONCERNING THE DIAGNOSTIC USELESSNESS OF THE NEGATIVE WASSERMANN REACTION. KARL RÜHL, p. 159.

The majority of authors are agreed that a negative result in the Wassermann reaction is practically useless; this is expressed by Mulzer, who says that in the present state of our knowledge, but little diagnostic dependence may be placed on the negative Wassermann reaction. In some few cases, in which the diagnosis of syphilis has with some degree of certainty been eliminated, and in which repeated blood examinations have shown a negative result, a negative reaction may strengthen the diagnosis. In cases of syphilophobia, negative reactions may be of use; but for real diagnostic practical value, the positive reaction is alone useful. Yet there are many physicians who are in the habit of treating cases of syphilis until the reaction becomes negative, and who await a positive reaction before resuming the treatment; it is to be assumed that these men lay too much weight on the importance of the serologic test. This assumption must work a great deal of harm in some patients, in whom much valuable time may be lost by these procedures; in many cases it would be more advantageous to persist in the treatment regardless of the serologic tests and their results.

Rühl cites two cases in detail illustrating his contentions, and refers to the findings of other authors who have come to the same conclusions as he.

(*Ibidem*, Feb. 15, 1913, lxxi, No. 7.)

### PUSTULO-HYPERKERATOTIC EXANTHEM IN GENERALIZED GONORRHOEAL DISEASE. PAUL SOBOTKA, p. 181.

The author describes a very extensive case of the gonorrhœal hyperkeratotic exanthem, of which 30 cases have been reported since Vidal's original description of the disease in 1893. The patient was a man of 24, who had been afflicted with gonorrhœal arthritis of a very severe type in many of his joints, accompanied by frequent attacks of chills and fever.

His skin presented a remarkable polymorphous exanthem, extending over the greater portion of the integument; the upper part of the chest, the upper arms and the right forearm alone being free of lesions. The efflorescence consisted of turbid vesicles about the size of a small pin-head; the smaller ones were white, similar in appearance to miliaria alba; they were surrounded by a fine erythematous areola; some of the lesions were bullous, with turbid, reddish-yellow contents, varying in size from a pin-head to a linseed, somewhat raised, and resembling molluscum contagiosum; some of them appeared to be umbilicated and looked like variola lesions from a distance, but when observed more closely, these vesicles proved to be flat topped and only exceptionally umbilicated; flat, lentiginous forms, brownish red in color, circular in shape, varying in size from a linseed to a penny, and consisting of a flat scale, a fraction of a millimetre in thickness, slightly raised in the centre, and presenting the appearance of an elevated horny layer, the edge of which showed a narrow, faintly reddened areola. Other lesions resembled conical and flattened corns, as though they were sunken into the skin, irregular in size and shape, and sharply circumscribed; still others were rupioid in appearance.

Interspersed among these, were seen a number of lesions in transitional stages of development; diffuse and circumscribed areas of hyperkeratosis were present on the palms and soles. Bacteriological examination of the lesions failed to show any organisms. The most interesting feature, to the author, of the eruption, was the presence of the numerous vesicles and bullæ, which, however, did not materially alter the general appearance of the exanthem.

A detailed exposition of the treatment of the gonorrhœal infection follows.

The cutaneous lesions gradually resolved with the progressive improvement in the patient's articulations, so that in about ten weeks, very little evidence of the cutaneous disease could be seen.

The author calls attention to the fact that the eruption appeared originally in those parts of the integument which had been irritated by dressings applied to the inflamed joints. Other observers have also noted the fact that the gonorrhœal hyperkeratotic exanthem is especially prone to occur in those cases, in whom dressings or applications were made to the skin of the infected individual. (*To be continued.*)

#### SYPHILIS WITH CONCEALED INITIAL LESION. JOHAN ALMKVIST, p. 190.

Almkvist has found only four cases of genuine syphilis d'emblee in the literature, all of them having occurred in physicians. He doubts that the infection may take place without puncture of the skin or mucous membrane. Of the twenty-three reported cases of "syphilis without chancre" which occur in the literature, the author believes most, if not all to be examples of syphilis with hidden chancres, or chancres which had existed somewhere in the body, but were neither visible nor palpable.

A case in point is described, occurring in a young man who was infected with both gonorrhœa and syphilis at the same time and from the same source. The man was under daily observation for three months, for the treatment of the urethritis and not until the appearance of a roseola was the presence of syphilis suspected. Careful search for the presence of a chancre revealed a small erosion behind the fossa navicularis, in which the spirochætæ were demonstrated. The probability is that the spirochætæ found lodgment in the mucous membrane of the urethra, where the præexisting urethritis had produced an abrasion. The author believes that many of the cases of so-called syphilis without chancre may have had the initial lesion in the urethra, behind the fossa navicularis; he thinks it possible that the spirochætæ as well as the gonococci may be "aspirated" into the urethral orifice during the act of coitus.

#### CONCERNING THE SYPHILITIC CEREBRAL REACTION AFTER THE SECOND SALVARSAN INJECTION. FELIX PINKUS, p. 196.

Cases of death following the use of salvarsan have occurred, in the majority of the patients, three to five days after the second infusion of the remedy, and were attended by marked symptoms of cerebral disturbance. In cases where a fatal outcome followed a single infusion, a large dose had been administered at about the end of the primary stage (chancre with positive Wassermann), or at the beginning of the secondary period; at this time, only the smallest doses of salvarsan are permissible, for experience has shown that at this period, the occurrence of cerebral manifestations is especially prone to take place. In the fatal cases, examination of the brain revealed the presence of acute cerebral œdema with multiple small hæmorrhages and small collections of leucocytes; it is therefore presumable that similar changes may take place, but much less marked in extent and less severe, in those cases which do not result fatally, but which show marked symptoms of cerebral irritation and nervous disturbance. If the hyperæmic and œdematous changes—the so-called Herxheimer reaction—manifest themselves two or three days after the administration of salvarsan, that is, after lesions of the brain substance have occurred and have occasioned severe symptoms, it follows that a certain length of time must also elapse after salvarsan injections, in cases where the symptoms are much milder and only evanescent. The objective symptom would then consist

of a distinct rise in temperature and the accompanying disturbances would naturally be much less severe than in the cases terminating fatally. The author cites the history of an illustrative case.

(*Ibidem*, Feb. 22, 1913, lxvi, No. 8.)

A CASE OF AORTITIS BASED ON CONGENITAL SYPHILIS. ARTHUR LIPPMANN, p. 213.

Since the introduction of the Wassermann reaction, the frequency of syphilitic aortitis has become quite manifest. The author had 175 such cases under his observation during the last three years. These cases on section, showed unmistakable evidences of a syphilitic process; while Reuter has demonstrated the presence of the spirochætæ in these lesions. It is a remarkable fact that the clinician encounters luetic aortitis almost exclusively in the acquired form of the disease, rarely in the congenital cases. This may be due to the fact that either the luetic children die too early to permit of a clinical diagnosis of luetic aortitis, or that the infection is overcome and the active symptoms of the disease disappear.

Only two cases of luetic aortitis of congenital origin have been reported thus far. One by Biermann, the other by Buchta. Lippmann adds a third such case, which he describes in detail. It occurred in a youth of seventeen, the only son of a man who died at the age of 43, of heart-disease; the boy had been ailing since the age of fourteen; examination showed the existence of aortitis with consecutive aortic insufficiency, and changes in the veins, all due to syphilis. There were no other clinical symptoms. The Wassermann reaction was positive; radiographs of the thoracic viscera are shown in the text. The remarkable feature of the case—one which was also noted in cases of acquired syphilis—is the long lapse of time between the infection and the manifestation of aortic symptoms.

In 175 cases of acquired syphilis, this period averaged between fifteen and twenty years, so that the average age in which patients came under treatment was about forty-two years. It is assumed that the father of the above mentioned patient also had congenital syphilis and died of luetic heart-disease at the age of 43. The prognosis is good in a case of the kind described, as the Wassermann reaction is controlled without difficulty. The lesions in the valves of the heart will remain unchanged, but there will probably be a diminution in the size of the aorta. In aortitis due to acquired syphilis, the prognosis is poor, the Wassermann test remaining positive despite treatment.

PUSTULO-HYPERKERATOTIC EXANTHEM IN GENERALIZED GONORRHOEAL DISEASE. PAUL SOBOTKA, p. 218. (*Concluded.*)

The second instalment of this comprehensive contribution to the subject of gonorrhœal exanthems is devoted to a general discussion of the case reported and of the cases hitherto published. The interesting features in the author's case were the wide-spread distribution of the disease—nearly the entire integument being affected by the hyperkeratotic exanthem—together with the extensive involvement of many of the articulations; the seborrhœic appearance of the eruption in some parts of the body; the hypersusceptibility of the skin to any form of irritation, causing the tendency to produce erythematous and keratotic lesions; a remarkable feature was the apparent transformation of small turbid vesicles into molluscum-like formations, followed by typical hyperkeratotic efflorescences.



DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Feb. 27, 1913, xxxix, No. 9.)

Abstracted by CLARENCE ALLEN BAER, M.D.

CONCERNING AUTO-HÆMOLYTIC PROPERTIES OF GUINEA PIG SERUM AND THE CONSEQUENT ERRORS IN THE WASSERMANN REACTION. CARL STERN, p. 403.

Stern shows that after one or more bleedings a guinea-pig will sooner or later show in its serum the property of hæmolyzing sheep corpuscles without the addition of amboceptor. This property may disappear again. It is present especially when perfectly fresh serum is used. By the use of such a serum an error can occur in the Wassermann reaction. He therefore recommends testing the guinea-pig serum for such a property before every Wassermann test.

THE COMBINED (SALVARSAN-MERCURY) TREATMENT OF SYPHILIS. GUSTAV STUMPKE, p. 407.

In 337 cases with positive Wassermanns (secondary, tertiary and latent syphilis), 182 cases became Wassermann negative with treatment as follows: 63 with salvarsan alone; 59 with salvarsan and light mercury; 60 with salvarsan and intensive mercury; 155 remained Wassermann positive after being treated as follows: 62 with salvarsan alone; 62 with salvarsan and light mercury; 31 with salvarsan and intensive mercury.

THE QUESTION OF SALVARSAN IN OTIATRY. JOHANN LANG, p. 409.

Lang reports several cases of ear complications following the injection of salvarsan. It is still undecided if these disturbances be due to salvarsan or if they be syphilitic recurrences.

(*Ibidem*, March 6, 1913, xxxix, No. 10.)

CONCERNING SYPHILITIC DISEASE OF THE AORTA. TH. DEMKE, p. 441.

CONCERNING LUPUS OF THE NASAL MUCOUS MEMBRANE. WALB, p. 447.

Early treatment of lupus of the nasal mucous membrane will prevent skin lupus and if skin lupus be present, will prevent recurrences after apparent cure. The rhinologist and dermatologist must work together. The process is usually local, and there is usually no pulmonary tuberculosis. There are several methods of infection: (1) digital infection; (2) inspiratory infection; (3) blood stream infection due to tuberculosis elsewhere in the body. This third form of infection is always accompanied by enlarged supraclavicular glands. Treatment consists of surgical procedures, tuberculin and galvanocautic.

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(*Ibidem*, March 13, 1913, xxxix, No. 11.)

### COPPER TREATMENT OF EXTERNAL TUBERCULOSIS. ARTHUR STRAUSS, p. 503.

Strauss uses copper salts in the treatment of lupus by subcutaneous and intramuscular injections and by mouth. He also often combines treatment with copper salts and iodo-methylene blue, because the methylene blue seems to make the lesions more susceptible to the effects of the copper.

CASE 1.—Age 17 years, lupus on both cheeks. Five years' duration. Treatment begun September, 1911. Twice weekly  $\frac{1}{2}$  to 2 cc of a 1% copper-chloride solution used—injected subcutaneously at first and later intramuscularly. Severe infiltration with intense pain every time. Three capsules containing 0.01 copperchloride were taken daily. Great improvement noted November, 1911—apparent cure with presentable scar.

CASE 2. Lupus of nose, nine months' duration. Treated locally with copperlecithin salve and also inunctions with the same salve. Apparent cure with presentable scar.

CASE 3. Lupus of right arm. Thirty years' duration. April, 1912, the patient presented the right upper arm covered with infiltrated scars. The borders were heavily infiltrated. Copperlecithin salve was used locally and for inunctions. In five months the hypertrophic scars became atrophic and smooth. The patient is still being treated.

### IS PSORIASIS A SKIN SYMPTOM OR A CONSTITUTIONAL-BACTERIAL DISEASE OR A TRUE SKIN DISEASE? HUEBNER, p. 505.

Menzer has stated that psoriasis is a tuberculide of some sort and the external expression of some constitutional bacterial disease. Huebner takes exception to this. The discovery of bacteria in sections of psoriasis and reactions due to tuberculin or streptococcic serum or vaccine may be due to working with preparations that were not sterile and with patients that had internal tuberculosis. Furthermore, tuberculin reactions are often produced in leprosy and actinomycosis, which are, like psoriasis, chronic inflammatory processes in the skin. Only some of Huebner's psoriasis patients reacted to tuberculin, and those only slightly, while a patient with a known tubercular rash was completely covered with an exanthem following tuberculin. Huebner differentiates between psoriasis and tuberculides, and also between psoriasis and streptococcic and staphylococcic erythemata. Therefore, he concludes that we are still as far from the knowledge of the cause of psoriasis as ever.

### SEVEN CASES OF SYPHILITIC REINFECTION AND OBSERVATIONS ON SEVERE SALVARSAN INTOXICATIONS. ANTONI, p. 508.

These seven cases had been originally treated with salvarsan. Antoni states that there is an individual idiosyncrasy towards salvarsan. Some of the intoxications noticed were: icterus with fever, urticarial and erythematous exanthemata, angioneurotic symptom-complex and anuria. A single dose of more than 0.5 salvarsan should never be given.

### WHAT SHOULD A PHYSICIAN WHO IS NOT A ROENTGEN-RAY OPERATOR KNOW ABOUT ROENTGEN ERYTHEMATA? PH. FERDINAND BECKER, p. 510.

Becker considers briefly the various Roentgen erythemata for the benefit of physicians who do not use the Roentgen-rays, but who might see patients suffering from X-ray dermatitis.

REVISTA CLINICA DE MADRID.

(Feb. 1, 1913, ix, No. 3.)

Abstracted by A. RAVOGLI, M.D.

TUBERCULOSIS AND ADDISON'S DISEASE. J. BLANCO, p. 101.

The author states that in many patients affected with pulmonary tuberculosis, cutaneous pigmentation is observed, which is caused by chronic insufficiency of the suprarenal capsule.

Melanoderma occurs in limited areas during the course of the disease, but sometimes extends to the whole body in the form of Addisonian pigmentation. Together with pigmentation the patients show asthenia and great loss of nutrition.

He attributes the pigmentation to a condition of hypo-epinephria; the toxins from the bacilli would have a hypotensive action on the suprarenal glands, causing hyperchromia. This condition is found in heredo-tubercular and heredo-syphilitic subjects as a result of congenital alterations of the suprarenal capsules. The presence of adrenalin in the blood confirms the existence of the affection of the suprarenal glands.

GIORNALE ITALIANO DELLE MALLATTIE VENEREE  
E DELLA PELLE.

(1912, liii, No. 5.)

Abstracted by A. RAVOGLI, M. D.

ON THE EXTRAGENITAL VENEREAL ULCER. CLINICAL OBSERVATIONS AND EXPERIMENTAL RESEARCHES. GRAVAGNA, p. 553.

The extragenital venereal ulcer is a rare occurrence, in comparison with the syphilitic initial lesion which is frequently found. When found it is usually a secondary venereal chancre, incurred by autoinoculation in individuals affected with venereal ulcers on the genitals. Venereal ulcers have been found on the fingers of the right hand, probably from perverted sexual practices. The author refers to a clinical case, where a man having chancroidal infection of the internal surface of the prepuce, inoculated the interdigital space of the thumb with an ulcer oval in shape, painful, secreting serum, with all the characters of a venereal ulcer of streptobacillary origin. No involvement of the lymph glands could be found. The serum from the ulcer was reinoculated in the same patient with positive results. Cauterization with zinc chloride brought the ulcer to recovery.

THE TREATMENT OF SYPHILIS BY INGESTION OF A NEW MERCURIAL PREPARATION, OXYCOLATE OF MERCURY (MERGAL). U. RABAUDI, p. 569.

The author gives due credit to the benefits derived from mercury and salvarsan. He maintains the best and the quickest administration of the remedies to be the intramuscular and the intravenous. Yet there are cases when for certain reasons these methods cannot be used and then the treatment has to

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rest either with inunctions or with oral administration. The inunction method is discarded on account of difficulties, and the easiest way for the administration of mercury, by mouth, remains.

The author reviews all preparations of mercury showing the untoward effects of each one. He then discusses the remedy oxycolate of mercury, which contains 23 per cent. of Hg. This is combined with tannate of albumin by Riedel, and is prepared in capsules of gr. i, oxycolate Hg. and gr. ii, tannalbin, under the name of Mergal. In 32 patients it has given good results, with no untoward effects. The author claims that the oxycolate is a non-toxic preparation; it should be given in those cases where other treatment cannot be borne.

### CHRONIC DISTROPHIC DERMATOSES, TYPE EPIDERMOLYSIS BULLOSA. JADER CAPELLI, p. 584.

The author refers to three cases of chronic bullous eruptions, which he has very carefully studied in all their details. Although he finds some difference in the symptoms, yet he accepts the name of epidermolysis bullosa for these cases. He finds that many cases reported under this name were accompanied with marked dystrophies. He believes that the nervous system has a great deal to do in the production of these affections, very likely also a concealed tubercular condition.

(*Ibidem*, 1912, liii, No. 6.)

### EXTRAGENITAL AND PERIGENITAL VENEREAL ULCERS, WITH REFERENCE TO A CASE OF INOCULATION OF VENEREAL ULCERS UPON PATCHES OF EPIDERMOPHYTES IN THE INGUINAL REGION. DE NAPOLI FERDINANDO, p. 649.

The autoinoculability of the venereal ulcer is frequent in the genital region, rare in other portions of the body; whereas the initial lesion of syphilis is common outside of the genital regions. There seems to be a varying receptivity in different parts of the cutaneous surface, to the virus of syphilis and that of the venereal ulcer, which is rare in the supra-umbilical region, and which runs a rather benign course in the sub-umbilical region. This is partly explained by the circumstance that, while the syphilitic lesions are painless and may often come into contact with the patient's fingers, the venereal ulcer is very painful, and is therefore probably not handled so much. The author calls attention to the difficulties of recognizing venereal ulcers in other parts of the body, such as the lips or in the mouth, where these lesions are frequently mistaken for canker sores or impetigo. The virus of the chancroid loses its virulence with successive inoculations, and the freshly inoculated ulcers are always more benign.

Although the casual agent of the venereal ulcer is the streptobacillus of Dugrey, some authorities have not agreed upon the specificity of this organism. The entrance of the organism into the tissues occurs in abrasions or fissures of the skin, as was the case in the patient which the author reports, and of which he shows a photograph.

### PARAPSORIASIS EN PLAQUES. E. BIZZOZERO, p. 689.

After a short review of some of the literature on this subject, the author reports a case of his own. The patient was a man of nervous disposition, suffering with gastric disturbances which manifested themselves in the form of rumination. The cutaneous eruption had existed for six years and consisted of reddish areas, distributed symmetrically on the abdomen, arms, thighs and legs. There

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were no subjective symptoms; the patches were but slightly infiltrated and resembled the eruption of pityriasis rosea. Histological examination proved the lesion to be parapsoriasis, the alterations in the skin appearing to be identical to those described by Brocq in this disease. The gastric disturbances may have some relation to the ætiology of this malady.

### DERMATITIS EXFOLIATIVA CHRONICA (MALIGNANT HERPETIDE OF BAZIN), SECONDARY TO PSORIASIS. PASQUALE LONGO, p. 695.

The patient was a man of 64, whose entire body was covered with a scaly eruption; he had been afflicted with psoriasis for many years. The skin was unable to perform its natural functions, resulting in cachexia and toxæmia, the patient dying of marasmus.

### OBSERVATIONS UPON TWO CASES OF ICHTHYOSIS VULGARIS. L. TOMMASI, p. 704.

Tommasi reports two sisters affected with this disease. The parents were free of any cutaneous affection. In one of the girls, aged 15, the von Pirquet reaction was positive, the Wassermann negative. The urine showed an abundance of indican. In the other girl, aged 11, both the von Pirquet and the Wassermann reactions were negative. These two children were nursed by the mother, a sufferer from tuberculosis. The other children, who were nourished by artificial means, were free of any cutaneous disease.

### A TYPICAL CASE OF IMPETIGO HERPETIFORMIS GRAVIDARUM (HEBRA). A. DEAMICIS, p. 711.

The author maintains that this disease is a pathological entity, as originally described by Hebra. He reviews all the cases hitherto published, bringing the total to 39. He then describes his own case, in a woman who had been the mother of several children, and in whom the disease began in the fifth month of one of her pregnancies. The disease began in the genito-crural fold, in the form of red patches studded with vesicles; these would rupture and become covered with a thin crust, accompanied by a burning sensation. The eruptive patches had coalesced and later large patches appeared under the breasts. The eruption continued to spread and she died in the seventh month of her pregnancy, in coma.

DeAmicis accepts Wechselsmann's theory that the disease may be due to general poisoning from placental ferments, due to a diminished quantity of antitrypsin and to the lessened antitoxic power of some of the organs, combined with insufficient elimination. Bacteriological researches in this disease have been negative.

### A CASE OF MULTIPLE CUTANEOUS LEIOMIOMA. E. A. ENGEL, p. 728.

For a period of eight years, the patient had noticed the formation of hard nodules on the right cheek; these continued to grow and new ones were forming, accompanied by neuralgic pains. When he entered the hospital, the lower portion of the cheek was a uniform swollen mass, covered with small nodules, in the bearded region of the face. The diagnosis of multiple leiomioma was made. Biopsy showed that the tumors were composed of thick, non-striated muscular fibres, disposed in bundles and forming the stroma of the little tumors, which were imbedded in the derma. From the histological study, the author concludes that the muscular fibres forming the tumors have their origin in the muscles of the hair follicles.

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ANTILEPROL IN THE TREATMENT OF LEPRO. ALBERTO SERRA, p. 734.

Serra asserts that chaulmoogra oil has a decidedly beneficial action on leproma, stating that it causes absorption, reparation and cicatrization of the lesions, in many instances. He thinks that the remedy has a specific action on Hansen's bacillus. Antileprol is prepared from chaulmoogra oil; it is an ethyl ether and possesses the therapeutic action of the oil, without its deleterious effects upon the digestive organs; it is therefore easily tolerated in large doses and can be given hypodermically, in doses of ten grammes per day. The author treated ten patients with good results.

## ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(February, 1912.)

Abstracted by FRANK CROZER KNOWLES, M.D.

A CASE OF LICHENOID TUBERCULIDE, OF THE TYPE OF LICHEN OF WILSON. P. L. BOSELLINI, p. 66.

Bosellini described a case of this affection in the person of a seamstress, aged thirty-seven years, who gave a marked tuberculous history. The patient had a keratitis during early life, which disappeared without leaving a trace. Chilblains were observed during the winter months. There was a consolidated area at the apex of the lung. The eruption consists of papules, from a grain of millet to a small lentil in size, pinkish-red to a reddish-violet, hemispherical or flat, clearly umbilicated, with a smooth, shiny surface, with no inflammatory areola, single or united in groups, forming a polygonal contour, and limited to the dorsum of the hands and the lower third of the forearms. The outbreak occurs during the spring and the summer; new lesions appear constantly during this period. The papule runs a course of several weeks and slowly disappears by absorption, without leaving a trace of pigmentation, atrophy or scar.

Histological examinations showed the presence of the lesions in the reticular and the papillary layer of the derma. The elements consisted of fixed polymorphous cells of the connective tissue type and lymphoid cells. These cells are poor in protoplasm but rich in chromatin. In the peripheral portion of the papule there are a considerable number of mast cells. In the central portion of the papule there are a large number of fixed cells and a few polymorphonuclear cells. The fibrous tissue is well preserved, as is also the elastic tissue. Plasma and epithelioid cells are present. There is considerable infiltration and œdema of the tissues. There is proliferation of the blood-vessels at certain points, a marked thickening of the walls, and a stenosis and occlusion of the lumen of some. The epidermis in the neighborhood of the papules is much thinned and the cells of the Malpighian layer show a degenerated, dropsical and vacuolated condition. The various theories of causation are given, the toxic hypothesis of Hallopeau, the attenuated bacillus suggestion of Haury-Darier, and the partial immunity idea of Zieler. A few tubercle bacilli were found in the infiltrated tissues, but the injection of the pathological tissue into a guinea-pig proved negative.

LYMPHATIC EPITHELIOMA IN SHEETS IN THE COURSE OF CANCER OF THE BREAST. A. FAGE and R. LEBLAYE, p. 71.

Some years ago Brocq detailed an account of a singular dermatosis which occupied all of the thorax and started with red, erythematous plaques, extending

centrifugally with infiltration of the integument and having a lardaceous appearance. The older portion of the eruption consisted of milium, pearl-like granulations, a little irregular in form, one-half to three millimeters in length and one-quarter to two millimeters in breadth, and raised slightly above the sound skin. These granulations were firm and resembled pearly vesicles; they were surrounded by an erythematous areola; they contained no fluid. These lesions co-existed with an indurated mass of the right breast; there were numerous nodules and the nipple was retracted. The left breast was also enlarged. The writers report a case of very much the same character. Their patient, aged thirty-nine years, had an induration of each breast and an associated rash, consisting of reddish, irregular spots, disseminated on the chest, the back and the pubic region. The breasts are almost three times their natural size, reddish to violet in color; numerous telangiectases are observed on the right breast, there is retraction of the nipple, the mammary glands are not adherent to the pectoral muscles. In addition to the red plaques, there are numerous nodules in the skin of the size of a lentil or small hazel nut over the chest, the abdomen and the lower and middle portions of the back. The histological picture shows that the derma is a little altered in places by irregular, embryonal infiltrations, consisting of compact groups of epithelial cells, either cylindrically or irregularly arranged. Numerous abnormally formed nuclei are observed. Karyokinesis is easily demonstrated. The disease develops with great rapidity, always having the same lymphatic character. The condition runs a short course toward a fatal termination, notwithstanding radiotherapy and injections of arsenic and the salts of quinine. The rapid course is due to an invasion of the lymphatics. Numerous neoplastic cells are found in the derma. There is such a close resemblance in the clinical and the histological picture of epithelioma lymphatique en nappe and cancer en cuirasse, that it is not improbable that they are slightly different forms of the same disease and should be grouped under the one or the other heading.

#### ON THE PYODERMA CAUSED BY THE BACILLUS OF LOEFFLER.

A. VERBIZIER, p. 82.

The bacillus of Loeffler gains entrance to the skin through some opening, in cracks, slight excoriations, erosions resulting from herpes and in the breaks in the continuity of the skin secondary to an eczema, an intertrigo or an impetigo. The older writers upon this subject considered the affection, in most cases, developed secondarily to other patches of diphtheria in the patient, and they also affirmed that every case had a diagnostic false-membrane. The bacillus would attack the skin through some break in its continuity; this area would almost immediately become painful; it would puff up; there would be a profuse foetid discharge; a false membrane would form and the edge of the patch would become elevated and the bottom ulcerated. Not infrequently an attack of erysipelas would develop around the diphtheritic patch. The prognosis of this form of diphtheria is always grave because of the extent of the lesions and because of the large surface that offers for the penetration of the diphtheria toxine. Paralysis, particularly of the extremities, not infrequently has followed the clinical form. Since the serum treatment of diphtheria the disease occurs notably less frequently on the skin and is far less severe. It is not rare, however, to observe an attenuated form that consists of grayish plaques, more dry than moist, discrete and slightly spreading. These plaques are detached in about eight to ten days, some persisting for a longer period, but without presenting a grave appearance. The diagnosis, according to the writer, is difficult without a microscopical examination. Primary diphtheria of the skin may be followed by membranes of the throat and larynx, but at other times it remains localized and is accompanied by all of the phenomena that generally result from diph-

theria intoxication. The prognosis of the lesion is not grave; the chief danger is from the sequelæ. Nine out of the ten cases reported by the writer have not had the membrane or the other usual manifestations of diphtheria. All but two of the cases occurred in infants. Four of the cases ended fatally. Seven among those recorded by the writer were of the impetiginous eczema type, and in three, vesicles and bullæ gave rise to an abundant discharge. Four showed a grave conjunctivitis. The most common form, and therefore the most typical type observed in infants, had the appearance of an impetiginous eczema, affecting almost always the head and the face and associated with a grave conjunctivitis, sometimes also an otorrhœa and rhinitis, the whole forming a distinct clinical entity. As the bacillus of pseudo-diphtheria is not infrequently found in this class of cases, animal experimentation should be instituted in order to prove that it is this inoffensive type of organism present rather than the malignant bacillus of Loeffler. The writer agrees with the old views of Trousseau, that a break of the epidermis is necessary for the invasion of the skin by diphtheria.

CONTRIBUTION TO THE STUDY OF LATENT SYPHILIS; SYMMETRICAL GUTTATE PSORIASIS OF THE UPPER EXTREMITIES, CURED BY SPECIFIC TREATMENT, IN A PATIENT VERY PROBABLY A FORMER SYPHILITIC. *Pied*, p. 96.

A typical psoriasis of the guttate variety was observed on the forearms, which had proven resistant to the usual forms of treatment. Leucoplasia of the tongue and the lips was also observed. The plaques upon the arms cleared up completely after fifteen injections of the cacodylate of the iodide of mercury. Seven years later, no relapses of the supposed psoriasis having occurred, the patient died of a cerebral hæmorrhage. The author considers that a latent syphilis was the probable reason that the mercury had such a curative effect on the psoriasis.

(*Ibidem*, March and April, 1912.)

A STUDY OF THE CIRCUMSCRIBED PRECANCEROUS MELANOSSES. M. W. DUBREUILH, pp. 128 and 205.

Dubreuilh covers this subject in such an admirable manner in his fifty-page article and there is so much of importance that a lengthy abstract of the monograph is necessary. Malignant tumors of epithelial origin are very frequently preceded and prepared by lesions of benign appearance that are of a precancerous nature. They may remain indefinitely stationary, they may heal spontaneously, but as long as they exist they are susceptible of giving rise to a malignant neoplasm. This is not alone caused by a malignant transformation, but also by an exaggeration or an acceleration of the process, for there is found in the precancerous lesions the essential characteristics of the malignant tumors. The writer, sixteen years ago, proposed the name of precancerous keratoses for a certain number of these conditions, such as senile corns, the senile keratoma, the hyperkeratoses of xeroderma pigmentosum, arsenical keratosis, the papilloma of the chimney-sweep and the paraffin worker, and, finally, the leucokeratosis of the epidermic mucous membrane. The writer also refers to Paget's disease, which is also a precancerous condition but not keratotic. The rodent ulcer is the general exception to a precancerous lesion, being present before the malignant growth. Carcinoma cutis is a tumor rather different from the ordinary epithelioma of the skin; it is quite pigmented and has been reported for a considerable time as a sarcoma. It is under the name of melanotic sarcoma of the skin that are classed the most of the published observations of this condi-



tion. Unna pointed out that the *naevus* cells that characterize the soft *naevus* are the emigrated epidermis cells, and that malignant growths consecutive to the degeneration of these *navi* are of exactly the same structure as these *navi*, and are therefore of epithelial origin—*naevo-carcinoma* and not *sarcoma*. The *naevus* is the most frequent cause of *carcinoma cutis*. In a certain number of cases, and particularly upon the feet, the melanotic spot does not precede, or by only a short time, the malignant carcinoma, of which it is the first manifestation. In others, the melanoses have a duration of years, or at times last indefinitely, without taking a malignant course, and during this time remain as unchanged as a congenital pigmentary *naevus*; they evolve, augment, diminish, change their location, or disappear spontaneously. Large and numerous melanotic plaques may be observed upon the face, which Hutchinson has called *senile freckles*, infective melanotic freckles. In Dubreuilh's first work on the subject he employed the term malignant lentigo of the aged. He now considers this designation as very defective from all points of view. The writer proposes the term "circumscribed precancerous melanosis" for these lesions. The study of this form of melanosis does not alone present a clinical interest; it is important also from the point of view of pathology, as it demonstrates the mode of onset of *carcinoma cutis* and its epithelial origin. The epithelial origin of the *naevus* cells is very difficult to demonstrate unless the evolution of a *naevus* can be examined in a very young infant. In circumscribed precancerous melanosis the process is much more active and more easily verified.

The precancerous melanoses attack almost equally the two sexes; fourteen cases were seen in males and eighteen in females. The age of the appearance of the melanoses is very variable, the extremes observed being eighteen and sixty-eight years. The average time elapsing between the appearance of the macule and the development of a malignant tumor was ten years; the greatest time elapsing before malignant changes occurred was thirty-four years and the least period one year. In a certain number of instances the melanoses supervened in the wake of a traumatism or an inflammation. These precancerous melanoses may attack many different portions of the body, and not only the skin but the mucous membranes also. The most frequent site of attack is the face. The conjunctiva may at times be attacked. Melanoses may involve the mucous membranes of the mouth in rare instances, and are then complicated by a malignant tumor.

The abnormal pigmentation is the only alteration that is clinically appreciable; there is no elevation or infiltration. The essential lesion of the circumscribed precancerous melanosis is an alteration of the basal cells of the epidermis, accompanied most frequently by pigmentation. The two varieties of changes consist of a hyperplasia of the basal cells of the epidermis and their pigment; this last is the less constant and the most important, or the epithelial alteration is the chief thing, the pigmentation being superadded and deposited in isolated foci. The evolution of the melanosis is not always progressive, extensive and continuous, but may be regressive, and it is one of the most peculiar features of the affection. The pigmentation may diminish or disappear in places and the skin may assume a normal aspect; this may be observed in only a portion of the patch. The carcinoma starts as a simple thickening of the skin, or the surface may become mammillated, the skin ulcerated, or finally a tumor may develop which is more or less projecting and globular.

The pigment is formed of very fine grains infiltrating the basal cell layers, and located especially in their superior pole; the upper portion of the rete cells may exhibit this pigment. Sometimes the metaplasia consisting of the basal cells is without other alteration than this abnormal pigmentation. This simple pigmentation is not, however, a necessary preliminary stage of the metaplasia, for the latter may develop without any pigmentation whatsoever. The metaplasia attacks the basal cells individually and in isolated areas. The

cells become of a greater volume and more globular, and there is compression of the neighboring cells, although they themselves are not altered. The nucleus becomes larger and rounder, with a sort of colored limiting membrane and an irregular chromatic network. There is always a well-preserved nucleolus of good size, and not infrequently a second nucleolus which may be very small. The body of the cells generally is increased in volume and the protoplasm forms a spongy network, excavated with colorless vacuoles. The most precocious alteration of the derma is the presence of chromatophores. The dermo-epidermic limit is effaced by the epidermic alterations and by the lymphocytic infiltration of the derma. The cellular metaplasia become neoplastic cells loosened from the epidermis, isolated or in small groups and infiltrated in the derma, having lost all of their former connection with the epidermis. On the contrary, in the other forms of precancerous conditions, such as *keratosis senilis* or Paget's disease, for example, the epidermis pushes into the derma vegetations in the forms of buds or tubes ramifying distinctly; and these remain in the same relationship to the epidermis as at the time of their formation. The tumor that follows a circumscribed precancerous melanosis is a carcinoma and not an epithelioma, which neoplasm progresses by budding processes. The general structure of the tumor does not differ from a *nævo-carcinoma*. Two hypotheses are possible: that the pigmentation of the metaplasia persists or that the metaplasia develops without melanosis and without any clinical sign that the carcinoma is appearing. It is very possible that in the latter the precancerous latency is purely histological. The process of cellular metaplasia constitutes the histological substratum of the circumscribed precancerous melanosis, and offers an analogy to the soft *nævus*. It is also seen that the basal cells of the epidermis become enlarged, lose their filaments and emigrate into the derma. They multiply very slowly and constitute the benign tumors of analogous structures to the carcinoma cells. The soft *nævus* is also therefore precancerous, as it has an analogous structure to the cells of carcinoma which may be transformed by evolution into malignancy. It therefore is seen that the genesis of carcinoma cutis is generally the consequence of a precancerous prodrome, more or less evident and of a longer or a shorter duration. It may be preceded by a soft *nævus*, pigmented or not, dating from infancy and remaining without change for fifty years. It may be connected with a circumscribed melanosis, dating from ten or twenty years. It may be more rapid in its course and become cancerous after a duration of but a few months. In the melanotic carcinoma the black macule at its first appearance develops into a malignant tumor. The prognosis of these melanoses has to be considered as benign, as the progress of some of these patches toward malignancy extends over many years. In the observations recorded in the paper there were ten cases with tumors out of a total of seventeen. The author attributes this to the fact that the patients only consulted a physician when they became disquieted by the appearance of a tumor. The treatment recommended is extirpation. Numerous references are mentioned in detail.

PRIMITIVE SPOROTRICHOSIS OF THE CALCANEUM. L. M. BENNET,  
p. 152.

A man of sixty-nine, without pathological antecedents, with a contracted and insufficient aortic endocarditis of indeterminable origin, had a lesion of four years' duration on the instep. After the lesion had been present a year, fistulous tracts developed. The instep first became somewhat tender and a diffuse swelling, violet in color, hard in character, appeared. Palpation gave the impression that the external malleolus and the calcaneum were augmented in size. There was slight œdema of the lower portion of the leg. There was also slight glandular enlargement of the affected side. Three fistulous tracts developed in this area,

and the probe showed that they led to the same point on the external aspect of the calcaneum. A general induration of the connective tissue was apparent and the derma, the hypoderma and the aponeuroses were bound together in a fibrous mass that adhered to the periosteum. The tendinous sheaths, the articulations and the other bones of the feet were absolutely healthy. A Roentgen picture showed a cavern in the calcaneum tissue, large and miliary openings, a porous condition. The affection evidently started with a direct inoculation at the area of disease. Cultures showed the characteristic picture of sporotrichosis. There was absolutely no other sign of the disease present. The patient died of an intercurrent pneumonia. The autopsy proved that the disease was limited to the calcaneum. The author considers that this is the first case on record of this disease attacking the calcaneum primarily and alone. The writer believes that the location of sporotrichosis in this bone was evidently secondary to infection of the blood. The patient as a stableman was constantly thrown in contact with vegetable matter, and therefore his occupation was the source of the infection. No history of contusion or injury to the affected area could be obtained.

SPOROTRICHOSIS WITH GUMMATOUS AND VERRUCOUS CUTANEOUS LESIONS OF A TUBERCULAR AND SYPHILITIC ASPECT. LARGE OSSEOUS GUMMA. LESIONS OF THE MUCOUS MEMBRANES OF THE NASAL FOSSÆ. L. M. PAUTRIER, BELOT and RICHON. p. 163.

The first lesions appeared in the form of subcutaneous nodules on the arms and the thighs, in a male of forty-two years. These nodules were not painful and had somewhat the appearance of furuncles. A reddish, thick, puslike fluid exuded upon excising these lesions. Some of the lesions on healing left small whitish cicatrices, with a surrounding pigmented strip. A verrucous lesion developed, almost synchronously with these nodules, on the anterior surface of the right thigh. Some of the lesions disappeared spontaneously, while others persisted. Six months after the outbreak upon the body, two and one-half years after the start of the disease, there appeared on the nose and the cheeks lesions of a reddish-violet color that ulcerated. These evolved as gummata and contained a purulent fluid. Notwithstanding that the outbreak was more or less generalized and of three years' duration, and some of the lesions were quite severe, the patient's health was excellent. The nares were partially destroyed and there was infiltration of the nose with large tubercles and also ulcerations. Pus from the lesions of the nose, the hand and the osseous lesion of the tibia all showed the characteristic microscopic picture of sporotrichosis. The Wassermann test was negative. The intra-dermal reaction was equally positive for sporotrichosis. Fowler's solution, given internally, had no material effect upon the disease. Large doses of potassium iodide given over a space of three weeks caused more or less retrogression of the lesions.

A CASE OF NEVO-CARCINOMA. H. BERTIER and R. J. WEISSENBACH, p. 171.

The authors emphasize the danger of using palliative measures in the treatment of any pigmented growths of the skin because of the dangers of recurrence and metastasis. In the case described by them the patient, a woman of fifty-two years, had a large tumor of the right cheek, accompanied by considerable submaxillary adenopathy. A small café-au-lait spot first appeared, which remained practically stationary for a dozen years, with the exception of the development of a pigmented zone. Then, without apparent cause, there developed insidiously

in the centre of the spot a small verrucous projection, which progressively increased in size. The verrucous portion of the tumor alone was excised and healing occurred in a few days' time. Three weeks later a nut-sized tumor appeared at the site of excision, black in color and accompanied by submaxillary adenopathy. The glands increased in size, became painful, of a firm consistency, and formed a mass the size of a hen's egg. The tumor also increased in size, becoming of the dimensions of an egg, involving the right cheek and the commissure of the right side of the lip. The tumor presented a blackish-violet color and the surrounding skin showed a reddish inflammation. The tumor was excised and the sections exhibited an infiltration of leucocytes in the epidermis, and the neoplastic tissue formed a compact mass of very variable dimensions, containing numerous cells, elongated and fusiform in shape, with large ovoid nuclei. There were numerous infiltrations containing grains of pigment. In certain cells the pigment was so abundant that it rendered invisible all details of their structure. These latter elements, so rich in pigment, occupy not only the neoplastic masses, but are also found in the adjoining tissues. The tumor was poor in blood-vessels. The connective tissue that limits the growth and the cellular tissue that surrounds the tumor are overrun with numerous infiltrations of lymphocytes and plasma cells. When the tumor was removed the glands were not operated upon, and notwithstanding this fact, two months after the extirpation, the adenopathy had disappeared. The glandular enlargement was therefore only inflammatory and not cancerous, possibly a precancerous condition. The histological picture was one of *nævo-carcinoma*.

### THIRD NOTE ON THE INTERPRETATION OF THE LAW OF HEREDITARY SYPHILIS. CARLE, p. 231.

In the first communication upon this subject the writer compared the influence of the parents in the transmission of the disease, the part played by the mother greatly predominating over the influence exerted by the father. Since the first paper of the writer on this phase of syphilis his opinion has changed greatly, as he is now able to demonstrate that in a great majority of cases the hereditary infection can be attributed to the father. The writer divides his paper into the discussion of the law of Colles, the law of Profeta and conceptional syphilis.

(*Ibidem*, April, 1912.)

### ON A SINGULAR RECURRENCE OF SYPHILIS; RECURRENCE AB INITIO. CH. AUDRY, p. 241.

A male of thirty presented, three years after his first attack of syphilis, a recurrence of the disease, consisting of a chancre at the same location as his original sore, with a typical roseola and the microscopic finding of *spirochaetae pallidæ*.

(*Ibidem*, May, 1912.)

### CONTRIBUTION TO THE STUDY OF EXPERIMENTAL SYPHILIS.

JOHANNE FEILBERG, p. 269.

The author first gives a history of the experimental phases of syphilis. He has inoculated the disease from man to animal, and from animal to animal, even in the second and third generations, and the inoculated material consisted of indurated lesions and of hypertrophic papules. The ultra-microscope first hav-

ing proven the presence of a number of *spirochaeta pallida* in the tissues to be injected, small portions of material were ground in a mortar and mixed with some drops of a physiological solution of ordinary salt and an emulsion made for injection. The inoculations were made partly subcutaneously into the scrotum and in part into the testicles. Inoculations were also made into the cornea, the anterior chamber of the eye and into the auricular vein. This last experiment is of such recent date that it is impossible to give an exposition of the results. The author did not carry on extensive inoculations of the eyes, as the operation proved painful notwithstanding the local anæsthesia, and after performing about a score, all of which proved negative, he limited further inoculations to the scrotum. The latter gave a remarkably favorable result. One hundred and eleven inoculations were given; fifty-four of these were positive and thirty-nine were negative. Sixty-one rabbits were employed in his experiments, the most of these animals receiving a double inoculation into the scrotum and the eye or into both eyes. The investigator is unable to report the results in a few of his experiments because the animals are still in their incubation period. The percentage of positive results is increased on transmitting the disease through several animals. On transmitting the disease, on the first inoculation, from man to rabbit, there were fifteen positive results and twenty-five negative; on the second inoculation, from rabbit to rabbit, eighteen positive and nine negative; on the third passage of the virus, twenty-one positive and five negative. The investigator has been able to obtain a great many transmissions of the virus and found, contrary to the results of Uhlenhuth, that with the increased frequency of positive results there was a decrease in virulence of the disease, except in the primary lesion, and a growing tendency to spontaneous cicatrization. The most of the best positive results were obtained on the first transmission of the virus from man to rabbit, the same secondary outbreak being present as in man. The most beautiful chancres were obtained in the rabbit from inoculating material from a chancre or a hypertrophic papule. The incubation period varied between five weeks and four months, diminishing with the increased number of transmissions. The disease in the animal runs through the same course as in man.

#### NEPHRITIS AND SYPHILITIC CHANCRE. CH. AUDRY, p. 277.

Renal disorders are extremely common during all stages of syphilis. It suffices to examine systematically the urine of patients in order to be convinced that in recent syphilis albumen is frequently observed. It is also a fact that in most cases this albuminuria is recovered from without difficulty, under specific treatment. There is, however, a grave form and a precocious type which is characterized by an enormous percentage of albumen, and is usually incurable. This variety is fortunately rare. There has probably been in this latter class of cases a previous affection of the kidneys. The urine of all patients should be examined with the beginning of the chancre, and arsenobenzol immediately given if albumen is found to be present. Out of a total of eighty patients whose urine was examined at the onset of the chancre and before the appearance of the secondary eruption, in three a considerable amount of albumen was found, although the patients had never had a suspicion of its existence. Audry believes that it is quite permissible to establish a direct relationship between syphilis and albuminuria. The rapid diminution of the percentage of albumen after an injection of a large dose of arsenobenzol argues in favor of its use. This syphilitic nephritis is already well established three or four weeks after the commencement of the chancre, and well before the appearance of all eruptive manifestations. In these cases, evidently, instead of the first localization of the syphilitic virus being in the skin, the renal organ is the area of the first colonization; helped by the delicate nature of the organ, the abundant blood supply, its eliminative

rôle, and possibly some old affection, unrecognized by the patient, the albuminuria results. The syphilitic infection attacks the kidney before the skin during the first weeks of the disease, after the appearance of the chancre, although it is not generally recognized as the regular course of secondary syphilis.

A NEW MYCOSIS; PARENDOMYCOSIS ULCERATIVE GUMMATEUSE  
DUE TO A NEW PARASITE, THE PARENDOMYCOSIS BAL-  
ZERI. BALZER, GOUGERET and BERNIER, p. 284.

Parendomycosis is characterized by the presence of subcutaneous gummata and subcutaneous and cutaneous ulcerations, grouped and agminated in the one region, the crural. These lesions appeared in successive crops two years apart. The disease developed in a married woman of twenty-six years, in whom there was no evidence of either syphilis or tuberculosis. The mycosis was cured in a month by the ingestion of potassium iodide. This observation adds a new mycosis to the mycoses described since 1906. It brings a contribution to the study of the old group of blastomycoses and to the new group of endomycoses and parendomycoses, of the variety of exascoses. The exascoses are frequent in America, but exceptional in France and Europe. The various saccharomycoses described by Busse-Buschke, Hudeli, Curtis, Vuillemin, Blanchard and Harter have to be particularly differentiated from the present species. It is important to insist on the practical interest, both prognostically and therapeutically, of the diagnosis of the exascoses; they are more severe in effect than the sporotrichoses, frequently causing death. It is therefore necessary to diagnose the case early, in order to give strong treatment in the beginning. Careful and thorough cultural experiments were carried out by the writers.

NODULAR SCLEROSIS OF THE CORPUS CAVERNOSUM IN AN OLD  
SYPHILITIC, CURED BY SPECIFIC TREATMENT. HENRI PIED,  
p. 296.

At the age of eighteen years, the patient, a male of forty, had an attack of syphilis. Two rounded, indurated projections were observed about two finger-breadths below the navicular fossa and separated by one centimeter. The calibre of the canal was not noticeably contracted. The lesions developed in the spongy vascular tissue surrounding the urethra, and were characterized by a perivascular infiltration, as is usual in syphilis. The affection was cured by mercurial injections.

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NOTICE.

OFFICERS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION FOR THE YEAR 1913-1914.

At the last meeting of the American Dermatological Association, held in Washington, D. C., in May, 1913, the following officers were elected to serve during the year 1913-1914:

JAMES MACFARLANE WINFIELD, M.D., *President*.  
SIGMUND POLLITZER, M.D., *Vice-President*.  
OLIVER S. ORMSBY, M.D., *Secretary-Treasurer*.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

AUGUST, 1913

NO. 8

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## EDITORIAL.

### THE ERADICATION OF *TINEA TONSURANS* AND *FAVUS*

**S**ABOURAUD'S statistics on the subject of tinea, from the école Lallier in the hôpital St. Louis in Paris are very instructive and interesting. Five or six years ago there were, on an average, 300 cases of ringworm of the scalp in the wards and the average stay of the patients was two years. Now there usually are not more than 50 such cases in the hospital at one time and the average time that the patients remain in the wards is about three months. Similar statistics are obtainable from the Downes School of the Metropolitan Asylums Board, the London Hospital and the Queen's Hospital for Children in England. In short, through the coöperation of the municipal authorities and the medical profession, tinea tonsurans and favus are being rapidly stamped out in London and Paris.

This happy result is directly attributable to the recent improvements in radiotherapeutic technique, and too much credit cannot be given to Holzknecht, Sabouraud, Colcott Fox, Adamson, Sequeira, Hampson, Pirie and others for their efforts and success in this field.

For the sake of brevity it would seem sufficient to say that all former methods of combating these diseases, including the fractional-dose X-ray method, were entirely inadequate. It is now possible, however, thanks to the massive-dose X-ray method, to depilate the entire scalp and to permanently cure these diseases in one sitting. Both in Paris and London the patients are kept under careful observation, and the results are controlled by microscopical examinations. For this reason the percentage of recurrences is exceedingly small. With the method as it exists to-day, in the hands of an expert, a permanent alopecia is a very rare occurrence, and there is no other untoward result to be feared.

Without further discussion, suffice it to say that a method has been found whereby it is possible to cure favus and tinea tonsurans in one treatment, and that the chances of untoward effects are reduced to the minimum. It now becomes pertinent to inquire why the brilliant results reported from London and Paris are not being duplicated here? There always has been and still is an unwarranted and unreasonable antipathy in this country to the massive-dose X-ray method, but we are pleased to note that confidence in this procedure is being gradually established.

It is possible to practically eradicate these diseases if the larger medical institutions would equip their clinics with suitable apparatus and obtain the services of experts to treat the cases. In out-patient departments it is difficult to keep the children under observation or to prevent them from spreading the affection, but by careful instruction and the employment of non-irritating antiseptics, etc., these objections may be largely overcome. This has been demonstrated in London. It would be ideal, of course, to have an institution for the treatment and isolation of these patients until they are no longer spore-carriers, but without such facilities the burden of responsibility would seemingly rest upon the dermatological clinics.

Inasmuch as the treatment is expensive and considerable difficulty is bound to be encountered in obtaining suitable men for the work, together with the fact that only a limited number of cases can be handled in any one clinic, it might be advisable for the Board of Health of New York to carefully consider the feasibility of establishing a department for the proper treatment of these diseases.

Considering that every child afflicted with tinea tonsurans or favus becomes a menace to others, it is necessary to isolate them as much as possible. They are refused admission to the schools, but they are allowed to mingle with the children out of school. It seems a shame to allow these unfortunates to be a menace to others, and, also, it inflicts a tremendous handicap to keep them from school for several years at the very time of life when schooling means so much to them. This is especially deplorable when one considers that it is now quite unnecessary.

ED.



## ADDITIONAL STUDIES ON THE PRESENCE OF SPIROCHÆTA PALLIDA IN GENERAL PARALYSIS AND TABES DORSALIS.\*

By H. NOGUCHI, M.D., New York.

THE majority of clinicians of the present day are agreed in admitting that general paralysis and tabes dorsalis are in their origins intimately connected with a previous luetic infection. It was, indeed, through the untiring and systematic studies of numerous investigators, notably of Esmarch and Jessen, Kjelberg, Fournier, Erb, Winge and Sandberg, Sternberg, Althaus, Virchow, Krafft-Ebing, Kraepelin, Gowers, Möbius, Strümpell, Raymonds, Binswanger, Leredde, Hallopeau, Homén, Mendel, Nonne, Mott and Collins, that the existence of an undeniable relation between syphilis and the so-called parasymphilitic affections of the central nervous system was definitely established. The theory that parasymphilitic conditions are in some way connected with a previous syphilitic infection is based chiefly upon the fact that the majority of individuals suffering from general paralysis or tabes dorsalis have had syphilis in early life. This argument, however, has been met by a great deal of opposition, on the ground that neither general paralysis nor tabes dorsalis show the characteristic histopathological lesions of syphilis and that anti-syphilitic treatment is of no avail in these diseases. Had we not had cases of syphilis of the central nervous system, which were typical from the histopathological as well as from the therapeutic standpoint, we might have assumed that syphilis of the brain and spinal cord presents special features not found in other organs. But as we are also confronted with typical cases of cerebral and cerebrospinal syphilis, it becomes difficult to entertain the theory that general paralysis and tabes dorsalis constitute real syphilitic affections. Fournier and others created a conventional classification under the name parasymphilis or metasymphilis, while others again have proposed to call these conditions postsymphilitic. It is true that certain authors have advanced the theory that general paralysis and tabes dorsalis are the consequences of the deleterious effect of some toxic substances emanating

\* Read by invitation before the Dermatological Section of the New York Academy of Medicine, March 4, 1913, with a demonstration of lantern slides and microscopical specimens.

from some as yet unknown metabolic anomaly brought about by a previous syphilitic infection. In this case one would have to deal with the after-effects and not with the inciting agent of the infection; hence no benefit would be attained by any treatment that is directed against the virus itself.

The question whether or not in so-called parasymphilitic or post-symphilitic affections of the central nervous system we are to deal with the living virus or with the effects of post-infection unaccompanied by the living virus, is not merely of theoretic interest, but of grave practical importance, since upon this one point must depend the nature of the therapeutic measures to be adopted.

Since Schaudin and Hoffmann made the momentous discovery of the presence of *Spirochaeta pallida* in all stages of syphilis, many eminent pathologists have made innumerable efforts to demonstrate the presence of the syphilis organism in the nervous tissues in cases of so-called parasymphilitic affections, but without success. This fact in itself, however, is not sufficient to prove the absence of the *pallida*, for the presence of the positive Wassermann-Neisser-Bruck reaction in the blood and liquor cerebrospinalis, the pleocythosis and globulin increase in the spinal fluid, as well as the steadily progressing morbid processes of the patients, all point to the probability of the virus being present in the affected organs. Besides, there are many instances of *tabes incompleta*, in which an adequate and thorough administration of salvarsan or neosalvarsan has led to definite subjective as well as physical improvement.

My interest in the question of parasymphilis was first aroused when my studies chanced to lead me into the field of syphilitic research, but I did not take up the matter seriously until my attention was drawn to a peculiar phenomenon which I noticed during my studies on the cultural properties of *Spirochaeta pallida*. I discovered that under certain conditions and when grown in pure cultures, the *Spirochaeta pallida* assumes the form of minute granules, from which, upon transplantation into a suitable medium, spiral forms are seen to sprout. This observation suggested to me the possibility of the *Spirochaeta pallida* being present in a granular form in cases of parasymphilis. I assumed, therefore, that the failure of so many eminent investigators to demonstrate the presence of the *Spirochaeta pallida* in the brains of paretics might be due to the absence of the spiral forms of this organism. With this idea in mind I began to examine a number of specimens of brains from cases of general paralysis. As I and Dr. Moore have reported elsewhere, I succeeded in a short time in demonstrating the typical spiral forms

of the pallida in 12 out of the 70 cases comprising the first series of cases. This rather unexpected finding made it desirous to pursue the subject still farther in order to clear up the mystery as to why the organisms had not been perceived ere this. It is true that in many specimens it is extremely tedious and often impossible to detect the pallida, and I intend, therefore, on this occasion to deal with my further experiences in connection with this subject, describing, in particular, some technical points which facilitate the discovery of the microörganism in the tissues of general paralysis and tabes dorsalis. I shall then report the results hitherto obtained by me.

Up to the present I have examined 200 specimens of brains from cases of general paralysis and 12 specimens of spinal cords from cases of tabes dorsalis, all of which were placed at my disposal through the courtesy of Dr. Cotton, Dr. Dunlap, Dr. Elser, Prof. Ewing, Dr. Fisher, Prof. Graves, Dr. Hough, Dr. Kaplan, Dr. Lambert, Dr. Moore, Captain Nichols, Dr. Orton, Dr. Rosanoff, Dr. Smith, Prof. Spiller, Prof. Weisenburg and Dr. Zabłiski, to whom I here wish to acknowledge my indebtedness.

The specimens were stained according to Levaditi's method, with certain modifications to be mentioned later, although it should be stated that this method in some instances produces quite satisfactory results. In the total 200 specimens of parietic brains, 48 cases were seen to possess the *Spirochæta pallida*. The ages of the patients showing the microörganism varied from 29 to 75 years; in one case where the pallidæ were found, the patient had had the illness as long as six years. The *Spirochæta pallida* was also demonstrated under the dark-field microscope in one of the six fresh parietic brains given me by Drs. Lambert and Rosanoff. This specimen contained very few pallidæ, and in the stained preparation I failed to locate them.

Unlike the brain specimens, great difficulties are encountered in the examination of the spinal cord. In my early attempts I prepared transverse sections, but was considerably hampered in my search for the microörganisms by the presence of numerous neuroglia fibres and cross sections of the nerves. By cutting the tissue longitudinally this difficulty was greatly lessened and I was able to find the *Spirochæta pallida* in the posterior column of the dorsal cord in one of the 12 specimens. The organisms were extremely sparsely distributed and much patience was required before one was discovered. The other specimens are still under continued observation and I intend at a later date to report more definitely upon the relation of the pallida to the lesions.

DISTRIBUTION OF SPIROCHÆTA PALLIDA IN PARETIC BRAINS AND  
THEIR RELATION TO THE TISSUE ELEMENTS.

I am not in a position to discuss at length the question of the distribution of the organisms, as it was not my intention to investigate this phase of the problem. I can only state that the gyrus frontalis, gyrus rectus and Roland's region in particular were selected for the present study and gave the results above reported. In several instances the gyrus hippocampi, Aimson's horn and other regions were also examined and in one case the spirochætæ were found in all these parts, being, however, much less numerous there than in the motor region.

Spirochætæ pallidæ are found more frequently and in greater quantities in the cortical layers than in the nerve-fibre zone. In some sections they are found in groups of varying sizes, scattered irregularly among the nerve cells and neuroglia fibres; in others isolated, widely scattered examples of the organism can be detected. By counterstaining the sections with toluidin blue or thionin, it is seen that a pyramidal cell is closely surrounded by one or more spirochætæ, and in some instances a part of the pallida may be seen to have become inserted into the cytoplasm of the nerve cell. Some organisms lie in the perineural spaces along the axis-cylinder processes and certain irregular, amorphous precipitates are often seen in the vicinity of such cells, these being probably of the nature of an exudate. The nerve-cells infested by the pallidæ show the degenerative changes as indicated by their modified contour, distortion and swelling, or by the disappearance of the nucleus as well as of the processes. The pallida is very rarely found in the vicinity of the blood vessels and almost never within the vessel walls. In the pia mater I have not been able to find the pallida with certainty.

## TECHNIQUE.

Before proceeding to describe a method which I found was productive of more satisfactory results than those hitherto obtained, I must again emphasize that the old Levaditi method has often given good results. It seems, however, that in such instances the original technique was not strictly followed out and the thickness of the tissues, in particular, greatly exceeded that which had been recommended as necessary. Thus, it is often useful to take a piece of paretic brain 5 mm or more thick, instead of 2 mm, because in such tissue a less deeply impregnated area is obtained within the interior

portion in which the pallida is seen to stand out in sharp distinction from the less deeply impregnated neuroglia fibrils.

Another extremely important point which has not been strictly respected by many is the fact that while the neuroglia fibrils stain well in an imperfectly fixed tissue, *Spirochæta pallida* never take on the silver impregnation, regardless of the time and temperature in which they are exposed to it. Thus, it is of fundamental importance, in order to ensure success, that the tissue be completely fixed prior to its impregnation.

It is also of fundamental importance to know that the prolonged action of formalin interferes with the staining of the neuroglia fibrils, while it accelerates that of the pallida: thus, specimens which have been preserved in formalin at least one year give the best results, although recent specimens have also in many cases proved successful.

With the above facts as a basis I have formulated the following method, which I have found to be quite satisfactory:

From a specimen taken from the gyri frontali, gyri recti or any other region and hardened in 10% formalin, a slice of tissue measuring 5 to 7 mm in thickness and of variable dimension is taken and put into a mixture containing 10% formalin, 10% pyridin, 25% acetone, 25% alcohol and 30% aqua distillata for a period of 5 days at room temperature. The tissue is then thoroughly washed in distilled water for 24 hours. Next, it is transferred to 96% alcohol for 3 days and then thoroughly washed in distilled water for 24 hours. After this, the tissue undergoes the following treatment, which is carried out in a dark bottle:

1. Bath in 1.5% silver nitrate solution for 3 days at 37°C (or 5 days at room temperature).
2. Wash in distilled water for several hours.
3. Reduce in 4% pyrogallie solution with the addition of 5% formalin for 24 hours at room temperature.
4. Wash thoroughly in distilled water.
5. Transfer to 80% alcohol for 24 hours.
6. Then to 95% alcohol for 3 days.
7. Absolute alcohol for 2 days.
8. Xylol, xylol-paraffin, paraffin.

The sections should be cut from various strata of the tissue, in order to ensure obtaining the best impregnated zone. The thickness of the section must depend upon the degree of impregnation, which varies considerably according to different specimens of the brain.

It is my custom to cut to 3  $\mu$ , but it is often preferable to cut to 5  $\mu$ , as one thereby increases the chances of finding the pallida in a given area.

It is highly advisable to impregnate a syphilitic tissue containing numerous pallidæ, in order to control the staining of the brain tissue at the same time.

When the staining is successful all the various tissues of the brain appear in a color varying from a pale yellow to a yellowish brown, while the pallidæ are pure black. The neuroglia fibres sometimes stain distinctly, but when examined with artificial light they are found to be brownish but never black. The sections in which the fibres appear pure black in color are seldom suitable for showing the pallidæ and the staining may thus be considered a failure, although I have on rare occasions succeeded in utilizing such preparations. It is always my rule in commencing my search for the pallida to start from the palest area and proceed gradually towards the edge, which usually takes on a deeper impregnation.

The above method is also applicable to cases of tabes dorsalis. It is best to cut the spinal cord 2 cm long and to make longitudinal sections.

*Spirochæta pallida* has thus been demonstrated in the brains in general paralysis and also in the spinal cord in tabes dorsalis. The percentage of positive findings is about 25 per cent. in the former, but the organism was found only once in twelve cases of tabes. Although it may seem strange that it was not found in all the cases, we must take into consideration that the search made in my series was rather incomplete, as in the majority of cases only one region of the cortex was studied and of this only a few sections. There can be no doubt but that a complete examination of each case would reveal the *Spirochæta pallida* in all of them. Owing to the tediousness of the technical labor I have been unable to make a more exhaustive search, but I hope that other workers will, by their investigations, be able to supplement the present study.

The pathogenesis of the characteristic lesions of general paralysis and tabes dorsalis has never been understood before, but now that the organisms have been found in the very seat of the pathological processes it may be assumed that these lesions are the result of the immediate presence of the pallidæ. In general character the changes produced are merely those of a chronic parenchymatous encephalitis brought about by the invading spirochæta.

Thus the discovery of *Spirochæta pallida* in cases of so-called general paralysis leads us to hope that the way may be prepared

for the solution of many therapeutic problems which have puzzled science. Thanks to the discovery of salvarsan and neosalvarsan, one of the most powerful weapons by which the commonly known forms of disease produced by this microörganism is being combated, this malefactor is being more and more brought under control. Is it then too much to hope that the same master-mind of Ehrlich will again come to our help in supplying a remedy for this particular kind of syphilitic affection, the baneful effects of which upon human society are too well known to need mentioning and opposed to which we still stand in utter helplessness?

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### THE LUETIN TEST.

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THE following data is taken from the records of 150 successive cases in which the cutaneous test devised by Noguchi was used with luetin prepared by him. The subjects were mostly soldiers, many of whom showed no evidence of syphilis, but wanted the test to satisfy their minds.

The clinical opinion and Wassermann findings were recorded along with the luetin test in each case. On account of frequent changes in the clinical opinion it was found advisable to record it in two stages. The preliminary clinical opinion is based on the history and physical examination when the patient is first seen. The complete clinical opinion comprises all information except the Wassermann and luetin tests. Such information is usually from therapeutic results or subsequent confessions of the patient, usually stimulated by a positive Wassermann or luetin report.

In thirteen cases of suspected lues, the Wassermann reactions were negative, leaving the cases in doubt. A positive luetin test in each stimulated further investigation, resulting in the finding of positive Wassermann reactions on repetition.

The number of days in which each pustule reached its climax was tabulated in every case. No relation could be observed between the time for development of the pustule and the duration or stage of the disease. In no case was a papule considered as a positive

reaction. The pustule was considered essential, but it did not necessarily have to be superficial. Many apparent papules on examination were found soft to the touch and on being pricked they would exude pus. Hence such were all classed as pustules.

Seven cases gave pustules in the control, associated with "Umstimmung" described by Neisser. All of these patients denied ever having had secondary rashes or mucous patches. Of these, three admitted chancre, two were congenital and two of doubtful origin.

Two old cases, each with a history of syphilis treated in the primary stage, gave negative Wassermann reactions and small, atypical pustules. Strictly negative reactions occurred in two old cases of vigorously treated syphilis.

#### PROVOCATIVE TESTS WITH THE WASSERMANN AND LUETIN REACTIONS IN CASES OF SUSPECTED SYPHILIS.

In four cases, the luetin test was repeated after a few weeks of potassium iodide and a dose of neosalvarsan. Two + cases became  $\pm$  and in the other two cases, the reverse happened.

Six  $\pm$  Wassermann reactions gave repeatedly — Wassermann reactions after neosalvarsan.

Seven patients were given ten to fifteen grains of potassium iodide for from two to three weeks. Their Wassermann reactions were remarkably enhanced as shown below.

Wassermann reaction	+	$\pm$	—.
Before potassium iodide	0	3	4.
After potassium iodide	2	4	1.

This seems to indicate that potassium iodide is the more efficient Wassermann provocative.

The following cases are recorded as being of special interest in connection with the tests.

#### PITYRIASIS ROSEA.

Seven cases were observed; one was in a syphilitic. Of the six non-syphilitic cases, two gave  $\pm$  Wassermann reactions and four gave + luetin tests. The luetin pustules were six mm. in diameter and lacked the inflammation at the base usual in syphilitic pustules, but they averaged nine days for development. A case of syphilis suspected of being pityriasis rosea was finally diagnosed by the persistence of the lesions and the positive Wassermann reaction for five months.



In a previous series of pityriasis rosea cases, four in succession gave + Wassermann reactions which, with the + luetin tests, enhance the analogy to syphilis; to wit, the primary patch followed in a few weeks by a generalized rash with glandular enlargement, especially of the epitrochlears and 99° to a 100° F. temperature.

#### PSORIASIS.

One frank case of psoriasis gave a negative Wassermann reaction and a  $\pm$  luetin test.

In a case of apparent psoriasis of the elbows the diagnosis was settled by a + Wassermann reaction and a + luetin test followed by successful specific treatment.

#### ERYTHEMA MULTIFORME.

One case gave a + Wassermann reaction which became negative and the lesions disappeared without specific treatment. The luetin test was negative.

#### RECURRENT GENERAL FURUNCULOSIS.

Three cases with negative histories all gave + Wassermann reactions and responded to specific treatment. One gave a ++, one a + and one a — luetin test.

#### CHRONIC DERMATITIS OF THE SHINS.

Two cases with negative syphilitic histories and general adenitis had an eczematous-like, spreading eruption of the shin. One had a + and the other a  $\pm$  Wassermann reaction. Both gave + luetin tests and improved on anti-syphilitic treatment.

#### ECTHYMA.

One case affecting the knee suspected of being syphilitic rupia gave a negative Wassermann reaction and a negative luetin test. It cleared up under non-specific treatment.

#### PURPURA.

One case affecting the arms and shoulders gave a negative Wassermann reaction and the luetin test produced a small hæmorrhagic papule which was regarded as negative.

A second case affecting the legs, also having general adenitis,

gave a negative Wassermann reaction and a  $\pm$  luetin test. Thus the case remains a suspicious one.

#### LEUKOPLAKIA OF THE TONGUE.

One case with enlarged glands and a negative Wassermann reaction gave a  $\pm$  luetin reaction, leaving the case among the suspicious.

#### EXPLANATION OF TABLE.

For standardization and comparison, the clinical, Wassermann and luetin findings were recorded as ++, +,  $\pm$ , and —.

- ++ Clinically represents a frank case of syphilis.
- + A highly probable case in which one would make a tentative diagnosis but confirmatory evidence would be required to be conclusive.
- $\pm$  A suspicious or rather doubtful case.
- Negative.

For the Wassermann test the scheme followed was that used at the Army Medical School, where most of the tests were done.

- ++ No hæmolysis.
- + Less than 50% hæmolysis.
- $\pm$  More than 50% hæmolysis.
- Complete hæmolysis.

Judging from a comparison with the clinical and Wassermann findings, the luetin reaction was rated according to the diameter of the pustule.

- ++ 8 mm or more.
- + 6 mm. to 8 mm.
- $\pm$  3 mm. to 6 mm.
- Negative.

A pustule on the border line between two of the above classes was put in the higher class if it developed slowly, or had an angry, inflamed base and was dropped into the lower class in the absence of duration or inflammation.

Among the latent and congenital cases so few of them had treatment as not to affect the figures.

## THE LUETIN TEST

Clinical Wassermann Luetic	P P P	P P N	P P P	P P P	N P N	N P P	N P N	N N P	N N N	Number of Cases.	Preliminary clinical opinion.			Complete clinical opinion.			Wassermann.			Luetic.		
											++	+	+	-	++	+	+	-	++	+	+	-
Untreated .....	2	...	...	...	...	...	1	...	...	3	...	1	2	...	...	...	1	2	...	...	2	1
Primary, treated with salvarsan.....	4	1	...	...	...	...	...	...	...	5	1	3	1	...	4	1	...	2	3	...	...	4
{ Recent cases treated with salvarsan..	2	6	2	...	...	...	...	...	...	10	10	...	...	10	...	...	...	5	3	...	2	1
{ Old cases with no recent treatment...	3	1	...	...	...	...	1	...	...	5	...	4	1	...	4	1	...	5	...	...	...	3
{ Old cases, no prior treatment, recently treated with salvarsan .....	2	1	1	...	1	...	...	...	...	5	...	3	2	...	1	3	1	...	4	...	1	1
{ Old cases, prior treatment, recently treated with salvarsan .....	6	...	2	...	...	...	...	...	...	8	4	3	1	...	6	2	...	2	4	1	1	2
Latent, Neg. history, probably acquired	4	1	3	...	4	...	1	...	...	13	...	2	10	1	...	8	5	...	2	7	4	...
Latent, Neg. history, probably con- genital .....	7	1	1	...	3	...	...	...	...	12	...	6	5	1	...	9	3	...	1	10	1	...
Congenital .....	5	...	...	...	1	...	...	...	...	6	1	2	1	2	1	4	1	...	1	5	...	4
Total luetic .....	35	11	9	...	9	2	1	...	...	67	16	24	23	4	26	29	12	...	19	38	6	4
Tentatively luetic .....	+	...	1	4	...	1	17	2	...	25	...	5	19	1	...	5	20	...	1	16	8	2
Suspicious .....	±	...	...	...	...	1	6	21	...	28	...	...	26	2	...	...	26	2	...	1	10	17
Negative .....	-	...	...	...	...	...	1	28	...	30	...	...	17	13	...	...	3	27	...	1	...	...
Grand Total .....	35	11	10	4	9	5	25	51	...	150	16	29	85	20	26	34	61	29	19	41	32	58

All cases of less than one year's duration were classed as recent syphilis, while all cases over one year were classed as old. Thus it may be observed in the luetin column that 55% of recent cases and 90% of old cases gave positive luetin tests.

No marked difference in the luetin test could be observed between the cases which received and those which did not receive salvarsan.

For a more direct comparison of the clinical, Wassermann and luetin findings, as seen in the left column of the table, all ++ and + cases were called P, while all ± and — cases were called N. Thus it may be observed that of the 67 total luetic cases, 35 or 52% gave P findings in all three, clinical, Wassermann and luetin, while in the remaining 48%, one or another of the findings was N.

#### CONCLUSION.

The luetin test, like the Wassermann reaction, is a valuable diagnostic aid when interpreted properly, especially in conjunction with the clinical findings.

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RESULTS OF SALVARSAN THERAPY IN MALIGNANT SYPHILIS PRÆCOX, SYPHILIDE OF THE PALMS AND GUMMA OF THE TONGUE.

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MALIGNANT SYPHILIS PRÆCOX.

IT is now well known that in malignant syphilis with mucous membrane lesions which have been resistant to mercurial treatment, striking symptomatic results can be obtained with salvarsan. Additional proof of this fact is the subsequent history of a case which has been previously published under the title: "Precocious Tertiary Syphilis: Report of a Case with Manifold Manifestations."<sup>1</sup>

Fifteen months after post-nuptial infection by his wife, a man, 37 years of age, who had been treated neither thoroughly nor methodically, began to exhibit tertiary manifestations which appeared in the following order:

- (1) Ulcer of the right leg;
- (2) papular syphilide of the scalp;
- (3) deep ulcerations of tonsils and posterior pharyngeal wall;
- (4) stricture of the left nasal duct;
- (5) ulcers on the forehead;
- (6) periostitis of nasal bones;
- (7) gumma, suppuration and perforation of nasal septum;
- (8) bursitis and synovitis;
- (9) periostitis of heads of tibiæ;
- (10) gummata of right testicle;
- (11) synarthrositis.

From the above, it will be seen that the lesions had been superficial, involving chiefly the skin, mucous membranes, ocular appendages, cartilages, bursæ, periosteum, the testicle and costo-chondral articulations. When this case was previously reported, the patient was free from syphilitic manifestations, all of which had responded to mercurial treatment given in the form of inunctions and injections of the salicylate. At this time (October, 1909), however, the Wassermann reaction was strongly positive. Mercurial treatment was therefore continued up to the time the patient passed temporarily out of observation in July, 1910, when, despite this additional treatment for nine months, the Wassermann reaction was still strongly positive. Contrary to advice, the patient discontinued treatment because he felt well and was free from symptoms and lesions.

In October, 1911, the patient returned with ulcerations over both tonsils. The administration of salvarsan was advised and strongly urged, but the patient would not submit to it until July, 1912, when he again returned, this time in a pitiable condition. He had lost considerable flesh and strength, and was cachectic; there were profuse foul discharges from extensive deep ulcerations and broken-down gummata in the nares and pharynx. His weight was 112 pounds. The Wassermann reaction was strongly positive. Noguchi's luetin test was positive—of a pustular type.

<sup>1</sup> *Med. Rec.*, 1909, lxxvi, p. 645.

On August 1, 1912, 0.6 gm. of salvarsan were given intravenously with the Fox-Trimble apparatus and technique. Starting five hours after the injection and lasting 24 hours, there was a slight reaction with nausea, diarrhœa and a rectal temperature of 100° F.

Two days after the injection the ulcerations on the tonsils, uvula, palate and posterior pharyngeal wall appeared healthier, and there was less discharge. By August 10 the ulcerations had healed entirely, and the discharge ceased. Almost miraculous was the transformation. There was a gain in weight of one pound, and the general condition was greatly improved. On August 15 another pound had been gained, and the general condition had improved still further.

On August 16 another intravenous injection of 0.6 gm. of salvarsan was given. There was practically no constitutional reaction. On August 29 the weight had increased to 116 pounds; the patient said he felt like a new man, and possibly was not in error in declaring that his life had been saved by salvarsan.

On September 1 was started a series of twelve injections of gray oil. In December, 1912, the weight had increased to 130 pounds, and the general condition had improved greatly; during the six years of observation previous to the treatment with salvarsan, the highest weight was 124½ pounds.

This patient is far from being regarded as cured of syphilis. In December, 1912, the Wassermann reaction was still strongly positive. Intradermal injection of 0.07 cc. of luetin was followed in five days by the appearance of a pustule, from which, six days later, seropurulent fluid was extruded. Three months ago the patient would not submit to further mercurial treatment, though urged to do so. Who knows when he will return with new manifestations?

**CONCLUSION.** Despite the rapid involution of severe syphilitic lesions and the prompt disappearance of cachexia after salvarsan therapy in a case of malignant syphilis, the persistence of a positive Wassermann reaction and of a positive luetin test after two administrations of the drug would seem to indicate that the disease is not permanently suppressed, though at the time of writing the patient has been free from symptoms and lesions for eight months.

#### SYPHILIDE OF THE PALMS.

From the standpoint of therapeutic efficiency as indicated by the permanence of the symptomatic results and the effect on the Wassermann reaction, only in selected cases does salvarsan appear to have advantages over mercury. Such an exceptional case is one of squamous syphilide of the palms, in which apparent cure after prolonged mercurial treatment was always followed by a recurrence of the eruption and by a positive serum test; but since salvarsan therapy was employed over two years ago, there has not thus far been any reappearance of the skin lesion or return of a positive Wassermann reaction.

A male patient, 40 years of age, had a genital chancre, followed by secondary symptoms twelve years ago. He was systematically treated by mouth for two years, when he married and the treatment was continued for another year. His wife gave birth to a dead child seven months after marriage; she remained well, but never became pregnant again till eight months ago. Two years ago her Wassermann reaction was negative. According to information kindly fur-

nished by her obstetrician, Dr. Thomas H. Cherry, at the time of writing there is a living fœtus.<sup>1</sup>

Three years after Mr. B.'s primary infection, a scaly eruption appeared on the palms which, when the patient first came under observation three years ago, had been unsuccessfully treated with ointments. The Wassermann reaction was positive. One month after a series of twelve intramuscular injections of the salicylate of mercury, the eruption disappeared, but the Wassermann reaction was still positive. One month later the eruption reappeared. A new series of twelve intramuscular injections of the salicylate resulted in temporary local improvement. But two months after the last injection of the second series the eruption was returning, and the Wassermann reaction was positive. It is to be noted, then, that after mercurial treatment there was a temporary favorable effect on the syphilide, but persistence of a positive Wassermann reaction. Some months previously, Fordyce<sup>2</sup> had reported a similar case successfully treated with salvarsan.

Accordingly, an intramuscular injection of 0.5 gm. of salvarsan in iodipin suspension was given and repeated in two weeks. Even before the second injection the palms had become soft and free from scales, and up to date, during a period of over two years, there has been no recurrence. Though at the time of writing the skin over the palms appears to be normal, because of a recent doubtful Wassermann report, and as a precautionary measure the patient is now being given a series of salicylate of mercury injections.

As to the serum tests, nine days after the second salvarsan treatment the Wassermann reaction was for the first time reported negative; twice subsequently it was negative. These serum tests were performed simultaneously and independently at the Rockefeller Institute and by Dr. J. J. Hertz; there were no discrepancies. In July, 1912, Dr. W. J. Heimann also found the Wassermann reaction negative. The last serum tests, performed March 25, 1913, by the New York Board of Health and by Dr. J. J. Hertz, were reported  $\pm$  by the former and negative by the latter.

Whenever it was practicable during the past year, the writer has asked two serologists to perform the serum test independently. In fourteen examinations which were thus checked up, there was absolute correspondence in all but two instances, and in the latter there were but slight discrepancies.

**CONCLUSION.** This case corresponds closely with the one reported by Fordyce, and serves to confirm his experience that in a scaling syphilide of the palms, salvarsan is the specific of choice because of the greater rapidity and permanence of the therapeutic effect in this condition.

#### GUMMA OF THE TONGUE.

During the summer of 1905, a physician engaged in general practice in New York City failed to make it a rule to wear rubber gloves in his obstetric work. On the skin over the middle phalanx of the right index finger appeared a small papule, which subsequently increased in size, suppurated and was excised by Dr. Charles A. Elsberg. There remained an indolent ulcer which, when it matured, from time to time was incised and curetted. In the meantime there had developed chilliness, intermittent fever, a lymphangitis extending up the dorsum of the hand to the forearm, and enlargement of the right epitrochlear and axillary nodes, those in the armpit being about as large as hazelnuts and very

<sup>1</sup> Since this report was submitted for publication an apparently perfectly healthy baby was born.

<sup>2</sup> *Jour. Am. Med. Assn.*, 1910, lv, p. 1174.

painful. About seven weeks after the finger infection was first noticed and three days after thorough curetting under general anæsthesia, there developed: increased fever and chilliness, gastro-intestinal disturbance, nocturnal pains, insomnia, slight loss of hair, general adenopathy, pharyngeal hyperæmia and an erythematous eruption which Dr. F. J. Leviser diagnosed as luetic. After incunations and the local application of unguentum hydrargyri, the wound on the index finger healed promptly and the constitutional symptoms abated; during this treatment the roscolar macules on the trunk and extremities became copper-colored and in three weeks disappeared. Following the "Schmierkur" there was energetic treatment with salicylate injections for four years, *i. e.*, from 1905 to 1909. During 1909, 1910 and part of 1911, the Wassermann reaction was performed at intervals of six months and was always negative.

But in October, 1911, after the physician had been in a "run-down" condition for several months, he noticed on the dorsal surface of the tongue, situated about two inches from the tip and half-way between the raphe and left lateral edge, a protuberance of pinhead size, which caused annoyance because it could be felt by the palate. In three days this prominence had increased in size to that of a pea; it was not painful, but was seated on an indurated tender base. Dr. Charles A. Elsberg, Dr. B. S. Oppenheimer and Dr. Udo J. Wile were agreed that the growth was a gumma and that the immediate administration of salvarsan was advisable. For the first time the Wassermann reaction was now faintly positive; performed by Dr. W. J. Heimann. Five hours after the intravenous administration of 0.6 gm. of salvarsan by Dr. Udo J. Wile there was a severe chill, lasting fifteen minutes, and followed by very severe retro-orbital headache, repeated vomiting, diarrhœa and a rectal temperature of 104° F. Within 36 hours after the injection the above symptoms disappeared and the pea-like protuberance was getting smaller. In 48 hours it was less than half its maximum size, and in 72 hours there was no longer any elevation to be distinguished by the patient's lip and palate nor by the examiner's finger, though with the latter an area of induration could still be detected. At the site of the tumor which had "melted away," was to be seen a circular area of discoloration three-eighths of an inch in diameter. In less than one week there remained no subjective or objective evidence to indicate the former existence of the gumma.

Following two months of mercurial treatment and an interval of one month, the Wassermann reaction was negative (Dr. W. J. Heimann), and Noguchi's luetin test, performed by Dr. Martin Cohen, was also negative.

During the following winter (1911) the general health improved greatly, there was a gain of ten pounds in weight and the Wassermann reaction was negative. Though in the fall of 1912 the Wassermann reaction was still negative, as a precautionary measure neosalvarsan (dosage number VI) was given intravenously by Dr. Leviser. There was a systemic reaction of moderate severity.

In March, 1913, serum tests were performed independently by five serologists: Dr. D. J. Kaliski reported faintly positive, but Dr. Noguchi, Dr. W. J. Heimann, Dr. J. J. Hertz and the New York Board of Health all reported negative. Noguchi's luetin test was again negative.

At the time of writing, the patient feels better and weighs more than at any time since he was infected, eight years ago, and he is studying and practicing clinical medicine in New York City.

**CONCLUSION.** Despite systematic mercurial treatment for four years after extragenital syphilitic infection, there was a tertiary manifestation in the form of a gumma of the tongue, the rapid regression of which followed the intravenous administration of salvarsan.



## CLINICAL REPORT.

## A PSORIASIS FAMILY TREE.

By MARTIN F. ENGMAN, M.D., St. Louis.

THE following was compiled for me by two very intelligent women, a lady of 75 and her daughter. The former was a patient having suffered from psoriasis since girlhood. At my first visit she remarked that she knew when the disease came into the family and as she seemed to be very familiar with its various branches, I asked her would she prepare for me a "tree" stating therein those who had suffered from the disease and those who had escaped. I can vouch for the accuracy of the following statements. It was compiled after a great deal of correspondence and much trouble on the part of the two ladies.

(A-1) First generation that we know had psoriasis.

(C-2) Grand-daughter of the first generation. She had the disease around the waist, on the head, knees and ankles.

(D-3) Fourth generation. Disease showed itself at about 30 years of age, on the back of the neck and the head.

(D-4) Had the disease slightly.

(D-5) Had it slightly on the back of the neck and head.

(D-6) Disease began very early, possibly at 10 or 11 years of age. At 17, it became so bad on the scalp that he had to have his head shaved; it was very marked, also, on the lower limbs; he suffered from the disease more or less all his life.

(D-7) Had it slightly on the head in his youth; had it slightly all his life until about a year before his death at 57 years of age, when he had it very badly all over his body.

(D-8) At 16 years of age the disease appeared on the head; it then occurred on the knee for years but to no great extent. Within the last 20 years it has appeared on the elbows, hips, knees and lower shins.

(E-9) Began in his youth on the head; when he was at college the disease became very bad on the legs, between the knees and the hips. He suffered from the disease more or less all his life. He died at 42 years of age.

(E-10) Had the disease.

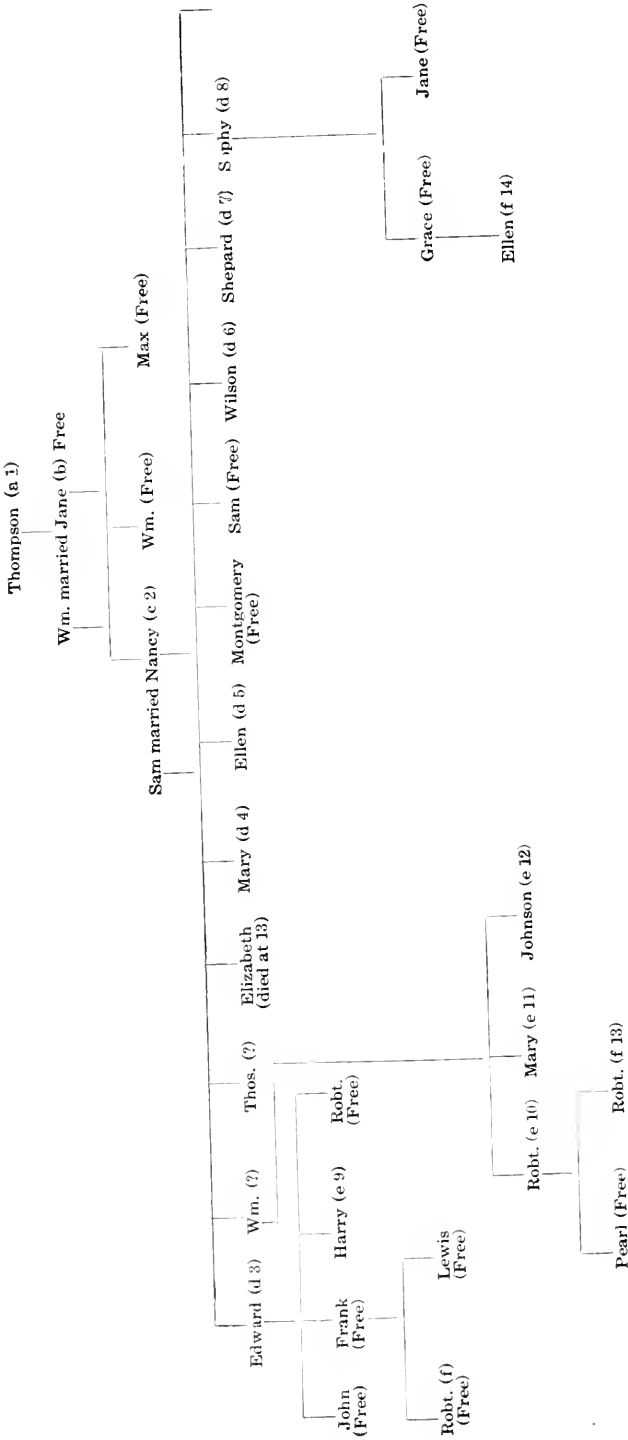
(E-11) Had the disease.

(E-12) Had the disease more or less all his life. It was especially bad on the elbows. At present there is no trace of the disease.

(F-13) Had the disease, which was especially marked on the elbows.

(F-14) Has the disease at times behind the ears. Is 16 years old at present.

CLINICAL REPORT



## SOCIETY TRANSACTIONS.

NEW YORK ACADEMY OF MEDICINE,

SECTION ON DERMATOLOGY.

March, April, May, October, November and December, 1912. and  
January, 1913.

JEROME KINGSBURY, M.D., *Chairman.*

## TINEA FAVOSA OF THE NAILS. Presented by DR. TRIMBLE.

The patient had previously been shown before the N. Y. Dermatological Society. He was a man of 28, of Italian birth. The condition had existed for three years. The nails were diseased for about half the distance from the free border. They were thin and discolored, taking on a livid appearance. A large amount of detritus raised the nail from its bed, giving it a tilted appearance. The clinical diagnosis had been confirmed by microscopical findings.

DR. POLLITZER said the appearance of the nails did not at all suggest favus, and asked if cultures had been made.

DR. WILE said that he had examined scrapings from the nails of this patient and had found large numbers of typical spores of adult mycelia.

DR. MACKEE said that the X-ray offered the greatest chance of a cure. Usually it was not necessary to use a sufficient amount of ray to cause a temporary loss of the nail, but occasionally this was required.

DR. TRIMBLE, closing the discussion, said that the appearance of the nails did not at first sight suggest favus, but that he had seen one similar case and an illustration of another, and had thereby been led to make a microscopical examination.

## TINEA TONSURANS IN AN ADULT. Presented by DR. PAROUC-NAGIAN.

The patient (D. F.) was a photographer, born in Russia, 35 years of age. The duration of his affection was two weeks. The lesion was a single patch, circular in shape, about the size of a half dollar, situated at the mastoid region. The surface of the lesion was studded with numerous broken-off hairs and was somewhat scaly. Microscopical examination revealed the fungus, which was a microsporon variety. Stelwagon stated that he had met with but one such instance, in a woman aged 30. Duhring had never seen it in persons over sixteen or seventeen years of age. Crocker said that no case, definitely proved to be microsporon tinea tonsurans, had been recorded as commencing in adults, his own case of 19 years being the oldest so far.

## CHANCRE OF THE LIP. Presented by DR. KINGSBURY.

The patient, an Italian, 32 years of age, was a stone-mason. When before the Section, he presented an indurated lesion, about three-quarters of an inch in diameter, on the left side of the upper lip. This had then been present for nearly five weeks. On the abdomen a beginning macular eruption was detected. The Wassermann reaction was slightly positive.

## RHINOPHYMA. Presented by DR. KINGSBURY.

The patient was a man 45 years of age; a Swede by birth; occupation, a house carpenter. He was strong and well-developed, but was obviously alcoholic. About five weeks before the man was presented to the Section, his nose had been operated upon by Dr. Arthur M. Kane and the organ had been reduced to a size approximating the normal. Photographs taken previous to the operation showed a nose fully twice the normal size, with characteristic lobulation and hypertrophic thickening.

## ALOPECIA AREATA. Presented by DR. BECHET.

The patient was an errand boy, about 16 years old. There was a rapid increase of bald areas of the scalp up to six months ago. There had been no increase of baldness during the past six months. He presented for examination several very large areas of baldness; more than one-half of the scalp was completely denuded. Locally, the treatment had consisted of applications of pure carbolic acid on the left side and upper part of the scalp, and the use, night and morning, of the lotio capillaris, containing resorcin, tr. cantharidis, tr. capsicum, ol. ricinus and alcohol. The right side of the scalp had been untreated for the purpose of comparison. Internally, he had been taking syr. hypophos. co. in dram doses. As could readily be seen, the spots treated with carbolic acid showed a much larger growth of hair than those for which nothing had been done.

## ALOPECIA AREATA UNIVERSALIS. Presented by DR. GILMOUR.

The patient was a girl, 8 years of age. Her family history was negative. The girl had always been well. Present history: About nine months ago, without any known exposure to the disease, preceding sickness or other cause, the hair on the crown of the head began to come out in small spots. These spots gradually enlarged, others appeared, so that within four months the child was absolutely bald. During this time the eyebrows entirely disappeared. For the three months following there was complete absence of the hair of the head and eyebrows. Physical examination: Two inches above the right eye there was a narrow, bow-

shaped line of hair which resembled a misplaced eyebrow, except that it was larger, being about three inches in length. The hairs were softer than those of the eyebrow and were one inch in length. A second spot, three-quarters of an inch in diameter, was situated on the right parietal boss. This spot was covered by fine hairs one half inch long. A third very small tuft, with lanugo hairs, three-quarters of an inch long, was situated in the centre of the occipital region, just to the right of the median line. The scalp showed numerous minute lanugo hairs just visible above the surface. The picture was that of complete baldness. The eyebrows showed that the hairs had returned, but as yet they had not the normal texture. The mother, who brought the child to the clinic to-day for the first time, stated that no treatment had been employed.

**DERMATITIS PAPILLARIS CAPILLITII.** Presented by DR. GILMOUR.

The patient was a male, single, aged 23 years. One year ago the patient noticed several small papules in the occipital region, just above the hair-line. For five months these gradually increased in size and remained the present size during the past seven months. These lumps gave no discomfort except from a cosmetic standpoint. Examination showed about a half dozen papules the size of a pea; each was pierced by a tuft of a few hairs. The bases of these papules were closely joined together; they had a reddish-white color and the consistency of a keloid. There was no active inflammation present. The patient had had no treatment.

**FAVUS OF THE FOREARM.** Presented by DR. MACKEE.

The patient was an Italian girl, 11 years of age, from Dr. Fordyce's clinic. The lesion was of two weeks' duration, was situated on the extensor surface of the left forearm. It consisted of a slightly raised, red, scaly patch, the size of a silver dollar. In the lesion were the characteristic sulphur-colored craters or cups which were typical of the disease.

**FAVUS OF THE SCALP.** Presented by DR. MACKEE.

The patient was a male, twenty years of age. The duration of the disease was eight years. He came from Dr. Fordyce's clinic. The eruption consisted of a palm-sized patch situated at the centre and anterior aspects of the scalp. This area was practically bald, atrophic and slightly scaly—the scaliness being most marked at the edges. The diagnosis of favus had been confirmed by microscopical examination.

**FOLLICULITIS DECALVANS.** Presented by DR. BULKLEY.

The patient was an adult, white, male, 25 years of age, in perfect health until seven years ago. At that time there appeared on the scalp at the site of the hair follicles numerous papulo-pustules. Each lesion was pierced by a hair. Despite treatment by various private physicians,

the lesions persisted, so that when the patient first presented himself, four years ago, a large quantity of hair had been lost and the normal scalp was replaced by a bald area, formed, for the large part, by a very thin cicatrix. This presented a permanent destruction of hair. At the time of presentation this bald area was symmetrical, beginning anteriorly about an inch behind the hair line and extending laterally to the parietal regions. Over the bald area there were a few finely scattered hairs, about whose bases inflammatory zones were seen. At the edges and extending into the hairy portion there were papulo-pustules pierced by hairs and surrounded by inflammatory areola, the centre of the lesions showing atrophy. The hairs piercing the lesions were still firmly attached. The case was shown because of its rarity and the ease with which it could be mistaken for favus. The ultimate prognosis was questionable, although the process was subsiding under the use of nitrate of mercury ointment, which penetrated deeply.

DR. GOLDENBERG said that it was difficult to make a diagnosis in this case, as it showed no active lesions, but only the terminal stages of the disease.

DR. POLLITZER said that the severe and extensive atrophy which had occurred in this scalp, did not in his opinion form a part of the folliculitis but was probably due to the prolonged treatment of the X-ray.

#### LUPUS VULGARIS. Presented by DR. BULKLEY.

The patient was a colored male, 20 years of age. One uncle died of pulmonary tuberculosis. Family history or personal history threw no further light on the present condition. The patient was well until eight years ago when he developed small nodules on the left side of his neck which gradually increased in size, broke down forming ulcers, and finally healed after curretage by his private physician. Six years ago nodules appeared on the left side of his cheek and nose. They presented tubercular, infiltrated patches which gradually increased in size, became necrotic and ulcerated, and finally healed with considerable scar formation after a few months of X-ray treatment. Six months ago new nodules appeared on the left eyelid, left side of the cheek and lower two-thirds and end of the nose. The lesions were distinct tubercles, infiltrated, interspersed with cicatricial bands, covered irregularly with crusts, and presented evidences of ulceration and destruction of tissue. The case was shown because of its extensive nature and rapid growth and to illustrate the remarkably good results obtained from the use of thoremadin.

DR. POLLITZER said that it was to be regretted that neither the Wassermann reaction nor energetic anti-syphilitic treatment had been employed in this case, where the diagnosis was doubtful.

#### PERSISTENT BALANITIS (CROCKER). Presented by DR. LAPOWSKI.

The patient was a man, 50 years old. There was no history of sexual exposure. The first attack was last summer, lasting two weeks. In

August 1911, he had a second attack, starting with a red spot, the size of a twenty-five cent piece, on the glans penis. The surface was denuded, and it had a sharply defined border, not infiltrated. On the red, denuded surface, there were efflorescences, with whitish points. The centre was slightly oozing. There was no adenitis. Under treatment, the lesions healed completely, leaving an uneven, smooth surface with depressions here and there. In February, 1912, there was a relapse on the same site, presenting a picture similar to one described above, but involving the prepuce. Crocker described such cases under the name "persistent balanitis" and his description corresponded with the condition in this case. The patient was suffering from tuberculosis of the lungs.

DR. GOLDENBERG said that this case belonged to the group of herpetic circinate eruptions. He said also, that it might well be caused by the ingestion of some drug of the coal tar group, especially antipyrine, which from his experience was apt to cause such localized lesions.

DR. LAPOWSKI said, closing the discussion, that he would examine the scales for the organism of *tinea circinata*, although he did not think this a case of that disease. The centre of the lesion, if left untreated, was covered by a thick crust instead of being clear. He was much interested in the suggested diagnosis of *dermatitis medicamentosa*, and would go into the patient's history more carefully.

#### HÆMORRHAGIC SARCOMA (KAPOSI). Presented by DR. LAPOWSKI.

The patient was a man, 70 years old. The present eruption was of one year's duration. On his left foot there were pea-sized hæmorrhagic tubercles, of slightly hard consistency and of a dark-bluish color. On the hard palate, on the left side there was a red spot of several months' duration. He received salvarsan 0.2 grams in paraffin, five days ago. The lesions greatly improved, the color was less bluish and the consistency softer.

DR. POLLITZER said that as the patients all died of this disease sooner or later, it might be well to try a high amputation.

DR. GOLDENBERG said that a case had recently been reported by Isaac of Berlin, which was greatly benefited by repeated small doses of salvarsan.

DR. LAPOWSKI said that he did not consider the prognosis so bad as did some of the previous speakers. It was true that most of the patients died soon, but this because it was usually a disease of old age. When it occurred in the young, the patients seemed to bear it very well. This man had shown great improvement since taking salvarsan.

#### LYMPHO-SARCOMA. Presented by DR. LAPOWSKI.

This patient was shown before the Section December 5, 1911. He was treated in one of the hospitals for the last two months with X-rays and massage; a tube was introduced under the skin of the swollen arm, and the accumulated fluid in the arm was drawn off. The former tumor of the neck, the swelling of the arm and shoulder, and enlarged veins of the skin, were entirely gone, leaving a quite normal tint.

## LUPUS ERYTHEMATOSUS. Presented by DR. TRIMBLE.

The patient was previously shown before the New York Dermatological Society. He was a young man of 24, and had the condition for a year. It might be considered as a border-line case between the fixed and disseminating types of the disease. The lesions were typical and were located on the face, neck, chest and shoulders. They were numerous, and had remained fixed for a year. The patient gave a history of having had lues seven years before, but the Wassermann reaction just obtained was negative. His family physician claimed to have found a diseased area in one lung several years ago. The patient had had one dose of arseno-benzol. The case was presented as a wide spread erythematous lupus.

## CASE FOR DIAGNOSIS. Presented by DR. MACKEE.

The patient was a male, 22 years of age, single, a pearl cutter by occupation and an American by birth. The man was a patient of Dr. George Barclay Wallace, who had brought him to Dr. Fordyce's clinic for advice regarding diagnosis and treatment. The duration of his present trouble was four years. The condition for which the man was presented to the Section consisted of a marked hypertrophy of the soft tissues of both hands, these extremities being one-half again their normal size. That the hypertrophy was entirely in the soft tissues was ascertained through the agency of a radiograph which demonstrated that the bones were unaffected. There were no subjective symptoms whatever; the patient's condition was perhaps a little worse in winter than in summer. The color of the hands was a deep blue, in other words, cyanotic. Occasionally bright red spots would appear. They would never assume the white appearance of Raynaud's disease. The neurological and general medical examination had revealed nothing and his family history was negative. The patient denied syphilis. The speaker thought that Raynaud's disease and syphilis could be excluded on account of the lack of subjective symptoms and the fact that the local symptoms were the opposite to those of Raynaud's disease. The fact that the man's occupation kept his hands in water for eight hours every day, might be a direct or indirect causative factor, but the evidence rather favored the condition as being the result of a disturbance of the central nervous system.

DR. WILE said that the disease might be a beginning acrodermatitis chronica atrophicans.

DR. POLLITZER said that the man's occupation had probably nothing to do with the case, as the epidermis seemed perfectly normal. There was a general thickening of the soft parts of the hands, a diffuse hyperemia and a marked hyperidrosis—conditions which indicated a central disturbance, probably in the sympathetic nerves. The possibility of a beginning acromegaly was to be considered.



## SCARS AFTER SYPHILIS OF THE NOSE AND MOUTH. Presented by DR. LAPOWSKI.

The patient was a woman, 26 years old. The family history was doubtful. There was no personal history of specific infection. The present trouble started in the hard palate eleven years ago, as a red patch. In the next two years the nose was involved, both externally and internally. She was treated in Vienna at this time for "lupus" for nine months. The present scars on the nose, upper lip and glossopharyngeal region were of nine years' standing. The uvula was absent, the vomer perforated. The redness on the nose was due to a paraffin injection performed three weeks ago. The scars on the nose were soft and no signs of any tubercles were seen on the borders. The patient had not been treated for the last nine years.

DR. PAROUNAGIAN said that the condition was more suggestive of lupus vulgaris than of syphilis. The history of the disease beginning at twelve years of age, certainly pointed to lupus vulgaris.

DR. GOLDENBERG said that he thought this was a case of lupus vulgaris.

DR. MACKEE said that the atrophy with the pinched and pointed appearance of the nose was very typical of lupus vulgaris. The speaker said that he could see no evidence of a perforation through the hard palate; in fact, there was no evidence at all of bone involvement. The destruction found in the mouth and throat was entirely limited to the soft tissues, as was that also of the cutaneous surfaces. It was not uncommon to see destructive tuberculous ulcerations of the mouth and throat. Some of the atrophy of the face was undoubtedly due to previous X-ray exposures. The speaker was of the opinion that the scars both of the face and the throat were the result of tuberculosis.

DR. ROBINSON said that the scars on the face looked like those left by lupus vulgaris, while the condition of the mouth was more like that caused by syphilis. As there were no active lesions present, it was impossible to make a diagnosis.

DR. WILE said that although the lesions in the mouth appeared to be the result of syphilis, the appearance of the nose was equally suggestive of lupus vulgaris. He thought that both diseases might have been present.

DR. TRIMBLE said that ulceration of the mucous membrane was not unusual in cases of lupus vulgaris, and that the age of the lesions, the pinched expression of the face and nose pointed strongly to that disease.

DR. LAPOWSKI said that the fibrous scar in the soft palate and the absence of the uvula were characteristic of syphilis, and did not occur in lupus vulgaris.

## PSORIASIS IN A SYPHILITIC. Presented by DR. MACKEE.

The patient, who was from Dr. Fordyce's clinic, was a single man, 28 years old. There was a very typical eruption of gyrate and nummular lesions of psoriasis thickly scattered over the trunk and extremities. On the neck and face were a number of circinate and annular lesions, which very closely simulated syphilis. The patient had contracted syphilis six years previously and had been very well treated, so that the Wassermann reaction was now negative. It was ascertained from his history, that the psoriasis antedated the syphilis. The psoriatic lesions, for which the patient was presented, were exceedingly obstinate

to treatment. After three months' treatment with chrysarobin ointment locally and arsenic internally, the body lesions had undergone considerable resolution, but the patches on the face and neck were unchanged in spite of the use of various local substances. Anti-syphilitic treatment also had no effect on these lesions. The speaker was of the opinion that all the lesions were psoriatic—in other words, that it was a case of psoriasis in a syphilitic and it illustrated the difficulty occasionally encountered in differentiating between the two diseases.

DR. GOLDENBERG said that this patient had been under his care for the last few years, but that the psoriasis antedated the syphilitic infection and was not influenced by anti-syphilitic treatment, but yielded to anti-psoriatic medication. The last Wassermann reaction was taken six weeks ago, and was negative.

DR. POLITZER said that at present all the lesions were typically psoriatic, and that there was nothing to suggest the existence of syphilis in the lesions which the patient presented.

PAPULO-NECROTIC TUBERCULIDE, LUPUS ERYTHEMATOSUS, LUPUS VULGARIS AND BAZIN'S DISEASE IN THE SAME PATIENT, TREATED WITH TUBERCULIN. Presented by DR. MACKEE.

The patient was a married woman, twenty-two years of age and a Russian by birth. She had had a typical papulo-necrotic tuberculide on the forearms for six or eight years. Three years ago the patient was presented to the New York Dermatological Society by Dr. Fordyce. Since that time there had been an extension of the eruption to the arms, hands, buttocks and outer surfaces of the thighs. The lesions consisted of very slowly evolving and involuting papules, which underwent central necrosis with subsequent scarring.

On the posterior surfaces of both legs below the knees, lesions developed that ranged from one-half to an inch and a half in diameter. These consisted of deep-seated nodules, some of which underwent ulceration. The lesions in this location were rather suggestive of Bazin's disease.

About one year ago there developed on the right cheek an ulcerated nodular lesion about the size of a twenty-five cent piece. Upon pressure with the diascop the nodules could not be made to disappear and the lesion closely simulated the picture of lupus vulgaris.

On the back part of the scalp there was an atrophic, scaly area the size of a fifty-cent piece, associated with permanent alopecia. This lesion was strongly suggestive of lupus erythematosus.

The patient exhibited all these lesions when she was presented to the Section. Under tuberculin therapy the lesions on the lower legs and the one on the right cheek had improved, while the lesion on the scalp and the papulo-necrotic tuberculide of the arms and buttocks had remained unaffected. The von Pirquet reaction in this case was positive.

PAPULO-NECROTIC TUBERCULIDE (TWO CASES), TREATED WITH TUBERCULIN. Presented by DR. MacKEE.

The first patient was a married woman, twenty-eight years of age and a native of the United States. She exhibited a papulo-necrotic tuberculide on the extensor surfaces of the forearms. The only unusual feature about the lesions was that they occurred in groups and did not last quite as long as was usual in this disease. The duration of the disease was three years, the individual lesions lasting about six weeks. Tuberculin administered over a period of eight months did not prevent recurring lesions. Both the von Pirquet and the Wassermann reaction were positive.

The second patient was a married woman of Russian birth, about thirty-five years of age. She exhibited rather superficial papules on the forearms, which showed a slight central necrosis and which were followed by a mild atrophy. There were, also, lesions on the backs of the hands and fingers which were nodular in character and fairly deep seated. Some of these would ulcerate while others would not. The Wassermann reaction was negative and the von Pirquet was positive. Tuberculin had produced no effect whatever upon the lesions.

BAZIN'S DISEASE (TWO CASES), TREATED WITH TUBERCULIN. Presented by DR. MacKEE.

The first patient was a girl of eighteen who had first come under observation one year previously. At that time there were several large nodules on the posterior surfaces of both legs below the knees, two of which had ulcerated. The disease had existed for two years. Under tuberculin the lesions disappeared in four months. When presented to the Section there were no active lesions.

The second patient was a girl of nineteen who presented the same history and the same type of lesions as the first patient with the exception that only one nodule had ulcerated. This girl, also, was cured in three or four months apparently as a result of tuberculin therapy.

LUPUS VULGARIS TREATED WITH TUBERCULIN. Presented by DR. MacKEE.

The patient was an unmarried woman, thirty-four years of age, a domestic by occupation and Irish by birth. She first came under observation four years previously, at which time she exhibited a lesion on the extensor surface of the left forearm, which was five inches long and two inches wide. The lesion consisted of erythema, atrophy and the apple-jelly nodules of lupus vulgaris. The patient first received X-ray treatment and then applications of the solid carbon dioxide were given without benefit. As a result of fourteen months of tuberculin treatment the lesion entirely healed.

The speaker said that these patients were from Dr. Fordyce's clinic and represented work in tuberculin therapy which had been going on at the clinic for a period of three years. A number of cases of lupus vulgaris, lupus erythematosus, Bazin's disease and tuberculide had been treated with tuberculin. It had been the speaker's experience that tuberculide did not respond at all to the treatment, as was also true of lupus erythematosus. The best results were obtained in Bazin's disease, while the treatment proved very efficacious, also, in lupus vulgaris, particularly in the flat type with atrophy and apple-jelly nodules. The ulcerative type of the disease did not do so well unless combined with staphylococcus vaccine or X-ray treatment.

The bacillus emulsion had been used exclusively. The first dose in each instance was 1/10,000 of a milligram. Injections were given each week and the dosage increased at the rate of 25% each injection. The treatment was continued until the patient was well or until the system became so sensitized as to make it impossible to continue the injections. In this case, the treatment was discontinued for several months and recommenced with very small doses.

DR. POLLITZER said that if these good clinical results should persist, they would prove the tuberculin treatment a great advance over previous methods. He had been using the bacillus emulsion in a few cases, with gratifying results and he referred particularly to a case of ulcerating lupus of the nose which showed great improvement after the third injection.

DR. TRIMBLE said that he had seen very good results from the tuberculin treatment in some cases of cutaneous tuberculosis and he could in many ways confirm Dr. MacKee's remarks.

DR. FISCHER said that he had reported a patient with pulmonary tuberculosis who was cured by open air treatment and who developed lupus vulgaris of the forehead seven years later. This was treated successfully with the X-ray, but six years later the disease reappeared on the eyelids and relapsed after excision. The patient now showed marked improvement under tuberculin treatment.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a girl of 20 years, nativity, Italy. She had a mild inflammatory lesion in both naso-labial folds or more properly speaking, at the junction of the alæ of the nose with the face. The duration was two years. The lesion was an ill-defined inflammatory condition, in which were situated numbers of miliary, deep-seated, white or yellowish bodies not unlike milium. They resembled enlarged, plugged sebaceous ducts. When the patient was first seen, she had a mild seborrhœa capitis and the face lesions seemed somewhat oily; on this account it was supposed to be some vagary of seborrhœic eczema, and was treated accordingly. It was extremely rebellious to treatment, and has been only slightly benefited. Adenoma sebaceum has also been considered in connection with the case.

DR. POLLITZER said that there was probably a hypertrophy of the sebaceous

glands or of the hair follicles, but no adenoma. He recommended either scarification or electrolysis.

DR. TRIMBLE, closing the discussion, said that the present condition was not seborrhœa, but was apparently an enlargement of the sebaceous glands.

#### PSORIASIS. Presented by DR. TRIMBLE.

The patient was a man, aged 48 years. Nativity, Russia. The duration of his disease was of several years. When he was first seen the lesions were of varying size and scattered generally over the body, but mainly on the upper half. The disease at that time bore some resemblance to a generalized seborrhœic eczema, but the diagnosis of psoriasis was decided upon. The knees and elbows had always been free. Many of the lesions had coalesced, and the patient presented large sheets of eruption. The case was shown as probably a transition stage between psoriasis and dermatitis exfoliativa.

DR. POLLITZER said that this was a case in which the possibility of the development of dermatitis exfoliativa must be borne in mind.

#### SYPHILIS AND LUPUS VULGARIS. Presented by DR. BECHET for DR. KINGSBURY.

The patient (Mrs. De L.), was aged 53. The lesion began nine years ago and had slowly increased to its present condition. She had an extensive, sharply maginated lesion on the left side of her face, involving the entire ear, most of the cheek and chin, and extending into the neck. The disease seemed more active at the periphery. There was much scarring in the centre. Several apple-jelly nodules could be seen in the central part of the lesion. The lesion assumed a serpiginous form at its lower end. The Wassermann reaction was positive in spite of mixed treatment taken for some time.

DR. MACKEE said that the Wassermann reaction proved that the patient was a syphilitic, but it was doubtful if syphilis had anything to do with the lesion on the face, which was distinctly lupus vulgaris.

#### EPITHELIOMA. Presented by DR. TRIMBLE.

The patient was a woman, aged 57. Nativity, the United States. On the extensor surface of the right arm, about opposite the elbow joint, she had an ulcerated lesion about one inch wide and about two inches long. It had a rolled, elevated border and just at the lower margin, a group of small, non-ulcerated pearl-like lesions could be seen. The case was distinctly typical of a cutaneous epithelioma. The duration (ten months) was very short for a condition of this kind, but otherwise, the lesion was absolutely typical from the clinical standpoint. The growth was excised by Dr. Trimble and a number of sections made. There was a difference of opinion regarding the pathological nature of

the lesion; the original pathological report was round-celled sarcoma. A subsequent examination produced the report of epithelioma.

DR. POLLITZER, after examining the specimen, said that it showed unmistakable evidence of epithelioma.

#### LUPUS VULGARIS. Presented by DR. KINGSBURY.

The patient was a well-nourished male infant, seventeen months old. When three months old, two small patches appeared, one on the left cheek, the other on the right buttock. These had slowly increased in size and when before the Section, the lesion on the cheek was an inch in diameter and that on the buttock about one and a half inch. The mother of the baby died a few months after his birth, of pulmonary tuberculosis.

#### CASE FOR DIAGNOSIS. Presented by DR. PULSFORD.

The patient was a woman, aged forty-two; she had one child; her family history was negative. She was of a nervous temperament, but was otherwise well. The eruption first appeared over the left malar bone. It slowly spread upward around the outer canthus to the eyebrow, and thence inward nearly half across the orbital margin. Neither eyelid was involved. The area was dull to yellowish red in color, slightly elevated and very slightly scaly. There was moderate infiltration, with accentuation of the skin folds, especially in the orbital region. There was an almost complete alopecia of the affected part of the eyebrow. Pruritus was moderate. Treatment with ointments and with liquid air had been ineffectual.

DR. TRIMBLE said that the case was exceedingly interesting, and whereas he did not feel that he could make a positive diagnosis, he would venture the suggestion that it might be what was sometimes called chronic lymphangitis. Such conditions were frequently seen in the vicinity of the nose, and were due to lymph stasis following the original irritation. This finally led to hypertrophy.

DR. POLLITZER said that he had never seen a case like this, and he had no diagnosis to offer. Dr. Trimble's suggestion, that it was an affection of the lymphatics, was a good one, but the extension of the process from below upwards, around and above the eyebrow, showed that it was not connected with any definite lymphatic area.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a boy aged eleven, of Italian parentage. He had on the right side of the mouth and upper lip a peculiar curved warty lesion about one inch long and about one-sixteenth of an inch wide. The lower end terminated at the angle of the mouth. There was no pain, but the boy had a peculiar tic on that side of the face. Whether the tic was secondary to the skin lesion was a question. The duration of the disease was three months, and the tic began at the same time that the cutaneous condition was noticed.

DR. POLLITZER said that this looked like a linear *nævus*, but that that diagnosis was impossible, in view of the short duration. He believed that the growth was the result of chronic irritation.

DR. TRIMBLE said, closing the discussion, that it might be the result of recurring herpes.

SPORADIC ELEPHANTIASIS. Presented by DR. D. O. ROBINSON.

M. H., colored, aged forty, was a laundress, married at the age of nineteen; she had eleven children and one miscarriage. There was no history of any skin eruption in the family; the mother had died of pneumonia at the age of twenty-eight; the father was killed by an accident at the age of fifty. The patient first observed a swelling in the right foot eighteen years ago; she stated that she slept on a small couch and had the leg hanging over the lower part, and the following morning was unable to wear a shoe on this foot. The swelling spread gradually around the ankle to the knee. The left leg became enlarged eight years ago. One year later red blotches appeared on the right leg, accompanied by pain; these lesions became darker within a few days, and a similar eruption then appeared on the left leg, and within six months the skin on both legs became markedly rough.

Present Condition.—Right leg: There was considerable enlargement from the knee to the ankle, with increase in pigment, a varicose condition of the veins, a marked non-inflammatory *œdema* as shown by the pitting and decided amount of firmness in the connective tissue, showing a probable increase in the collagenous bundles extending from the calf of the leg to the ankle joint. The skin was almost black in color, dry in character, with great thickening of the epidermis. There was a marked keratosis of the skin on the posterior surface of the leg. The circumference at the ankle was fifteen inches. The *œdema* was irregularly distributed, causing marked elevated areas with depressions between—a hilly surface with pigmentation only upon the most elevated parts. The foot showed but slight changes, having a thickened epidermis with pigmented areas and slight *œdema*. The left leg was similarly affected, but in a lesser degree in regard to swelling; the circumference five inches below the knee was eighteen inches, and at the ankle it was thirteen inches. The corneous collections which were greater than those seen in ichthyosis could be removed traumatically, showing an irregular warty or nodular appearance of the skin beneath. A serous exudation occasionally exuded on the general surface, unaccompanied by signs of inflammation. There were lesions of lichen planus on the left thigh, just above the knee.

SCLERODERMA AND SCLERODACTYLIA. Presented by DR. KINGSBURY.

The patient was a married woman, thirty-nine years of age. She was born in Hungary but had lived in this country for many years. About

ten years ago she began to be troubled with cold hands and later the fingers became swollen and painful. One year later she first noticed a peculiar hardness of her cheeks and experienced considerable discomfort following the use of the facial muscles. When presented before the Section the patient's face was quite expressionless, and the skin was hard, slightly bound down, dry and shiny. The skin of all the fingers was very hard and there was apparent absorption with retraction of the finger tips. The Wassermann reaction was negative.

LICHEN PLANUS. Presented by DR. BECHET.

The patient was a man, aged twenty-three. Four weeks ago the eruption first appeared at the anus, and within a week it became very general. At the time of presentation the papules were so numerous at the anus as to be confluent. The back and legs were also largely covered. The individual papules were unusually large. The interesting feature of the case was the large amount of lichen planus lesions on the forehead, chin and lips, the upper lip being covered with the papules, especially at the line of union between the mucous membrane and the skin.

LUPUS VULGARIS. Presented by DR. KINGSBURY.

The patient was a schoolgirl, eleven years of age. When two and one-half years of age, she had suppurating glands in the left side of the neck, and several years later an eruption developed in the cicatrix. When presented before the Section, the girl showed a characteristic patch of lupus about the size of a silver quarter.

LUPUS VULGARIS. Presented by DR. KINGSBURY.

The patient was a well-developed and healthy appearing Italian girl about twenty years of age. The eruption covered the nose and cheeks and had been present from early childhood. The case was of interest because of its marked resemblance to lupus erythematosus.

SYMMETRICAL CUTANEOUS ATROPHY AND SYPHILIS. Presented by DR. KINGSBURY.

The patient was a woman forty years of age. She was born in Germany, but had lived in this country since early childhood. She was married when nineteen and was the mother of two healthy children. There had been no miscarriages. Her hands had been affected as long as she could remember. The skin was thin, translucent, and wrinkled, and the veins were very prominent. About ten years ago the skin of the right forearm became atrophic and shortly after the left forearm and elbow became similarly affected. For several years past the skin of both feet and knees had been atrophic and of a deep red color. In addition to the above changes, there were several superficial luetic ulcerations on the leg. The Wassermann reaction was positive.



## LEPRA. Presented by DR. TRIMBLE.

The patient was a boy, aged fifteen, born in Italy. He had been in the United States eight years. The duration of the disease, according to the patient's statement, was one year. The disease was of the nodular type; the arms, forearms and thighs were the sites of the lesions; they were the color of iron rust and varied in size from a small pea to a hazel nut.

DR. POLLITZER said that this was almost the exact counterpart of a case shown by him last spring. In both the nodules were unusually small, limited to the extensor surfaces of the extremities, and were absent from the lobules of the ears and from the eyebrows.

## CASE FOR DIAGNOSIS. Presented by DR. BECHET.

The patient was a woman, aged fifty-two. Sixteen years ago she injured a mole on the lower anterior third of the left leg. Within a short time it became much inflamed, the centre becoming nodular and of a blackened color. After several weeks the lesion was excised. She remained entirely well until two months ago, when the site of the old lesion was again injured, causing a recurrence of the same symptoms. At the time of presentation the lesion was almost three inches in diameter, with a black, nodular swelling in the centre and a surrounding area of thickened, red, slightly scaly, infiltrated skin.

DR. POLLITZER said that this was an epithelioma developing upon a nævus.

## MULTIPLE HÆMORRHAGIC SARCOMA. Presented by DR. KINGSBURY.

The patient was a poorly nourished man of sixty-three years. He was born in Poland but had lived in this country since early manhood. The eruption began on the index finger of the left hand one and a half years ago, and on the right foot about nine months later. No history of traumatism was given. The skin of the affected parts was of a purplish color and there were present numerous hæmorrhagic nodules the size of a small pea. There were also hæmorrhagic lesions on the soft palate and gums.

DR. POLLITZER said that most cases of hæmorrhagic sarcoma occurred in those who had recently come to this country. It was distinctly an exotic disease. But in this case, although the patient was of Russian birth, he had been here since boyhood.

## PAGET'S DISEASE OF THE NIPPLE. Presented by DR. KINGSBURY.

The patient was an unmarried woman, thirty years of age. She was a dressmaker and had lived a sedentary life for many years. The right nipple had been affected for seventeen months. It began as a small excoriation and gradually increased in size. Occasionally there would be

slight bleeding. When before the Section the lesion was about half an inch in diameter, slightly indurated, and in appearance it suggested a syphilitic chancre. The case had been under observation for nearly two months and there had been practically no change in the size or character of the lesion. There was no family history of carcinoma.

The breast was amputated one week after the meeting and the following was the report of the microscopical examination, made by Dr. Albert R. Lamb: A large section taken through the nipple and extending deeply into the breast tissue showed the upper portion, in the vicinity of the nipple and extending down for a distance of about 0.5 cm., to be composed of a wild growth of long alveoli and cords of cells. Some of these were quite long, some were cut across and all seemed to be pushing their way into the underlying tissue. For the most part, the cells in these alveoli were limited by the basement membrane, but here and there they had filled the lumen and were infiltrating through the basement membrane. There was no growing in of the squamous epithelium of the surface and the growth had none of the appearance of an epithelioma. A section from deep down in the breast showed normal breast tissue with only a little increase in fibrous tissue. In several places, however, the glands showed proliferation and in one place this was quite marked and atypical, showing some breaking through of the basement membrane and probably indicating an early malignant change.

DARIER'S DISEASE. Presented by DR. D. O. ORLEMAN ROBINSON.

A. G., aged 15 years. She had been under the speaker's observation for more than two years. Family history: Father and mother were living and in good health; she had one brother and two sisters, aged 9 and 17 years, respectively. None of the family had any cutaneous diseases. History of patient: She said her general health had always been good; she had never had any skin disease except the present one, which commenced at the age of five years. The eruption first appeared upon the arm and later upon the hands, forehead, and lastly on the neck and chest. According to the patient's description, the disease appeared as little rose-red spots which gradually increased in number and extent, and was attended with roughness and dryness of the skin, and with considerable itching, especially during the summer. When the patient first came under the speaker's observation, the area affected corresponded to that of the present time. The eruption had changed in character, or, more correctly, in intensity of the pathological process at different times, it being decidedly more marked in summer than in winter. Some of the areas also showed much improvement, while other areas showed none at all. The parts showing this variety of condition were especially the arms, less so, the head and neck. The eruption when first seen, resembled a seborrhoeal eczema somewhat, on account of the scaly roughened condition, with considerable general redness, indicating a mild dermatitis, and the diagnosis of this disease was considered when the case was first shown before the Section two years ago, and was regarded as possibly an unusual form of eczema. The marked keratosis in the form of patches on

the elbows and knees, and the keratotic condition of the large number of the isolated papular lesions, showed a resemblance to an ichthyosis in a mild form. The diagnosis of Darier's disease was not made or suggested by any one at that time. A study of the case soon convinced the speaker that it was not one of ichthyosis or seborrhæal eczema. However, it did not show at first lesions characteristic of Darier's disease, although this disease was suspected after a careful comparison of a water-color sketch of the disease which was submitted. A biopsy was made and an examination of the sections, one of which was submitted, showed the disease to be one of Darier's.

The case with a description of the histo-pathological studies would, the speaker said, be reported at an early date.

#### PEMPHIGUS VULGARIS. Presented by DR. KINGSBURY.

The patient was a poorly developed man 39 years of age, and the disease was of about two and a half months' duration. The lesions first appeared on the face and thighs and later in the axillæ. The eruption soon became general, however, and when the man was before the section he presented a large number of bullæ, irregularly distributed over the body. Some had ruptured leaving a red and macerated base. The lesions varied much in size and shape. Some were as large as a hen's egg. The palmar and plantar surfaces were both involved, and the mucous membrane of the mouth was also affected. The man complained of occasional chills and there was slight elevation of temperature. He had gradually lost weight and strength. The urine was of a very low specific gravity (1003) and in a differential leucocyte count no eosinophiles appeared. Otherwise the urinalysis and blood examination showed no variations worthy of notice. A Wassermann test was negative.

#### SCLERODERMA. Presented by DR. PAROUNAGIAN.

Sarah B., aged 37, born in Russia. Married twice; she had had four children by the first husband and one miscarriage. She had one child by the second husband and two miscarriages. The duration of her trouble was fourteen years. She claimed that she was cured twice before and that this was the third attack, the duration of which was about one year. Both lower extremities were involved from both knees down to her feet. The skin was hard and rigid, whitish and rather shiny, atrophied in appearance. The lower portion of the legs were somewhat scaly. She complained of itching and burning.

#### GRANULOSIS RUBRA NASI. Presented by DR. PAROUNAGIAN.

Annie I., aged 10 years, was born in this country. The duration of her condition, according to the mother, was about three or four years. She complained of considerable itching, and according to the mother was worse during the winter than in the summer.

## TUBERCULIDE. Presented by DR. PAROUNAGIAN.

J. M., from Dr. Pollitzer's clinic at the Post Graduate Hospital, was 24 years old, born in Austria. He was married. The father and mother were both living and in good health. The patient had two children, both healthy, two brothers and three sisters, also in good health. The skin affection started on the hands about five years ago, and was very extensive. His lesions consisted of papules of various sizes anywhere from a pin's point to a French pea; some were necrotic, others elevated, shining, umbilicated lesions, violaceous in color, involving the ears, flush areas of the face, the arms, the extensor surfaces, even the palms, the buttocks and the lower extremities and the plantar arches. The lesions were painful. The patient claimed that Dr. Jackson and the late Dr. Lustgarten treated him with injections which improved him greatly. He had numerous scars all over the body.

## SCLERODERMA. Presented by DR. PAROUNAGIAN.

The patient was 53 years old, from Dr. Pollitzer's clinic, a Swede by birth, and had been twenty-eight years in this country. She had been married thirty-two years. Her past history had no bearing upon her present trouble. Her illness began seven years ago with an eruption upon her ankles which slowly involved both lower extremities. Lately it had appeared upon her right arm and forearm. Sensations of numbness and severe pain were complained of, particularly in the feet. The Wassermann test was negative. This case was presented as one of scleroderma accompanied by an unusual cutaneous atrophy.

## LUPUS ERYTHEMATOSUS. Presented by DR. BECHET.

E. D., aged 29. About one year ago, two lesions appeared on either side of the left arm. Six months ago she first noticed a reddish patch on her left temple. This increased rapidly in size, and in two months the eruption had spread to the left cheek, and across the nose to the left side of the face. The eruption had been at its worst for the past month. The interesting feature of the case lay in the fact of the disease apparently beginning on the arm six months before the face became involved. The progress of the disease was rapid, a large part of the face being covered within two months.

## LUPUS ERYTHEMATOSUS SHOWING EFFECT OF TREATMENT. Presented by DR. TRIMBLE.

The patient was a woman, aged 28. She had been in her present condition about eight years. The lesions were very peculiar in configuration, at first making almost a complete circle about the chin. The case had been previously shown to the Section on account of this peculiar configuration. It was presented at this time to show the effect of treat-

ment by the application of iodine externally, and of quinine internally. Photographs were also shown. This case was previously shown at the New York Dermatological Society.

#### PSORIASIS, SHOWING THE EFFECT OF TREATMENT WITH ARSENIC. Presented by DR. TRIMBLE.

The patient was a young man of about 25 years of age, who had had inveterate psoriasis for seven or eight years. The lesions were gyrate and generalized over the whole body. He had been given Fowler's solution internally, and had received no external treatment. This treatment had produced a cure of the psoriasis but left behind quite a marked pigmentation. This pigmentation was not entirely due to the arsenic as the photograph showed a rather marked pigmentation in the centre of the lesions before the arsenic was administered. Another interesting feature was the occurrence of several plaques of erythema on the right thigh. They were accompanied by neuralgic pains, which suggested abortive lesions of zoster arsenicalis. Photographs were shown. This case was previously shown at the New York Dermatological Society.

#### CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a man, aged 50. The duration of the skin lesion was three months. He had no subjective symptoms. On the left side of the chest extending from the sternum to the spinal column, there was an area of eruption about six inches wide. In some places there were patches, but most of the disease was in one large sheet or plaque. It was deep red, with a livid purplish hue, very much thickened and brawny to the touch. On close examination there could be seen in places, what might be termed papules. They were lighter in color than the original lesion. Previous history: The patient was admitted to Bellevue Hospital with a small abscess on the inner aspect of the left arm, complicated by a mild cellulitis. He also had an irregular swelling in the neck which was present when the patient was shown.

#### LUPUS ERYTHEMATOSUS. Presented by DR. D. O. ORLEMAN ROBINSON.

R. R., colored, aged 33, a waiter. Family history: The father and mother were living and in good health. He had one brother 36 years of age in good health also. The eruption first appeared three years ago as a small red spot on the left side of the upper part of the nose; the patch gradually increased in size. Later a small spot appeared on the right cheek which gradually spread and then a redness was observed on the left cheek and finally small lesions appeared on the scalp. The eruption occupied a considerable area of the upper half of the left side of the nose, also the left side of the face extending around the ear and

hairy part of the scalp, covering an area of four inches, the margins of which were concave in form and sharply limited. It extended downward about two inches on the side of the neck just below the ear. There were several isolated small areas varying in size from a finger nail to two inches in diameter; these were irregularly distributed over the scalp. The eruption on the right side of the face was somewhat similar to that on the left side. The color of the skin where the disease had existed varied in places from a very dark pigmentation, much darker than the normal skin, to areas less pigmented than the normal skin. This marked increase in pigmentation one would hardly expect to find in the atrophied tissue in erythematous lupus, and therefore attention was called to this character of the disease in this case, a deep pigmentation where usually non-pigmented areas existed. This unusual condition probably depended upon the limitation of the pathological process in a great measure, to the sub-papillary portion of the corium.

#### URTICARIA PIGMENTOSA. Presented by DR. LAPOWSKI.

The patient was an infant at the breast, a boy, 16 weeks old. Seven weeks ago he was brought to the Good Samaritan Hospital with an erythematous rash of one week's duration, on the trunk, thighs, buttocks, arms, soles, palms, both mouth corners and peno-scrotal region. There were abrasions on the mouth corners with pinhead-sized vesicles. On the peno-scrotal region there were pea-sized abrasions, slightly elevated and oozing. There was slight itching but no scratch marks. The mother had an abscess of the right breast of three weeks' duration. The lesions on the mouth corners, glans penis, and peno-scrotal region disappeared after one week without leaving any mark. The lesions on the palms and soles were from pinhead- to pea-sized, flat, red efflorescences with a desquamating border of raised epidermis. The efflorescences on the body disappeared, leaving dark pigmentary spots. On the cheeks there was an infantile eczema.

#### SCROFULODERMA, SHOWING EFFECT OF TUBERCULIN INJECTIONS. Presented by DR. TRIMBLE.

The patient was a young girl, aged 12 years. When five years old she had diphtheria, for which she was given antitoxine. Several weeks afterward she developed an abscess at the site of the injection. This was followed by abscesses on the arm, forearm and both sides of the neck. The abscesses in the neck were opened and around the edges of the wound, the skin began to take on a livid tinge, and finally developed into a well-defined case of scrofuloderma. This condition was treated in various ways without effect, and finally it was enretted under general anæsthesia. The result was good but the disease reappeared after about one year. Tuberculin injections were then started, and up to the present time she had had 33 injections with a very excellent result. No general or local reaction followed any of the last 31 injections, but after the first

two, a local, red necrotic nodule was produced which was apparent when the patient was shown.

Dr. MacKee said that cutaneous tuberculosis of the ulcerative type responded to tuberculin, especially when combined with staphylococcic vaccine. The speaker thought that a local or general reaction was undesirable and if a reaction did occur the dose should be greatly reduced at once and again gradually increased. In connection with this work at Dr. Fordyce's clinic, the speaker was experimenting with the application of tuberculin ointment or of the liquid tuberculin itself to the lesion, both by inunction and by injection.

CASE FOR DIAGNOSIS. PROBABLE SARCOMA. Presented by  
Dr. TRIMBLE.

The patient was a young woman, aged 28. For four years she had a small dark-blue tumor on the left arm near the shoulder. There were no subjective symptoms, and there was no areola around the lesion. The size was about that of a hazel nut.

CASE FOR DIAGNOSIS. Presented by Dr. BECHET.

C. H., aged 42. Six years ago the patient first noticed a few lesions on the arms. This condition remained apparently stationary until about three years ago, when similar lesions appeared on the trunk and legs. She had never been free from the lesions, nor had she noticed any disappear. They were brownish-red to brown in color; a few were slightly raised, but most of them were perfectly flat. Many showed various degrees of pigmentation. There was no atrophy. The patient said that some of the spots assumed at times a redder tint. Most of the lesions could not be pressed out with the diascop. There were no subjective symptoms. The patient had a severe attack of malaria three years ago, for which she received large doses of quinine. There was a history of rheumatism, the phalanges of the fingers being somewhat deformed. There was no luetic history, but despite a negative Wassermann reaction, she was given six one-grain tablets of mercury and chalk daily for six weeks, with no apparent effect on the eruption. Ergot, strychnine and quinine, given at different times, proved equally negative.

Dr. TRIMBLE said that he had a patient that presented an almost identical appearance except that there were more papules. He had made the provisional diagnosis in his case of an immature tuberculide and he would venture the same diagnosis in the case shown by Dr. Bechet. The case he referred to gave a distinctly positive reaction to the tuberculin test, and he would suggest that the test be tried in this case. If the case was a tuberculide, then it was one in which the activity in the lesion was not sufficient to produce the usual changes of evolution and retrogression seen in typical cases.

HYPERIDROSIS CURED BY RADIOTHERAPY. Presented by Dr.  
MacKee.

The patient was a young girl, who was suffering from epidermolysis bullosa and excessive sweating of the hands. She had been presented to

the New York Dermatological Society in October, 1912, by Dr. Fordyce. The left hand had received three Holzkmeech units of the X-ray with the result that there was complete cessation of sweating without visible atrophy. The right hand, which had not been treated, presented the original appearance.

LUPUS ERYTHEMATOSUS DISSEMINATUS. Presented by DR. TRIMBLE.

The patient was a young man, aged 25. The condition had existed for five months. Over the entire face and part of the scalp, and also on the shoulders, arms, forearms and back, and palms of the hands, was a diffuse, red, scaly eruption; it was infiltrated and took on a violaceous color on the backs of the hands. The palmar lesions were peculiar in that they were lumpy and not scaly. The disease began with mild systemic symptoms, fever, malaise, etc. The lesions were hot and itchy when the disease first appeared.

KELOID. Presented by DR. TRIMBLE.

The patient was a young man, aged 21. The right side of the face was covered with hypertrophic scarring. Some of the lesions were as large as a small orange. The right eye was completely closed by the scar tissue. The duration of the disease was six months. Acid of some kind had been thrown in the face with criminal intent according to the patient's statement. Fibrolysin had been administered without effect.

LICHEN PLANUS. Presented by DR. LAPOWSKI.

The patient was a man, 40 years old. He had lichen planus of the lower lip and plantar surfaces of both feet. The eruption started nine years ago, and at the time of presentation, occupied the middle of the lower lip, in the form of a line, leaving the regions near the mouth corners perfectly free. From that line, white lines branched out into the lower portion of the mucous part of the lip. The insteps of both feet had very marked deep lines, white, with minute lichen-like points between them.

DERMATITIS VENENATA FROM COCO-BOLO WOOD. Presented by DR. MACKEE.

The patient was a single man, 40 years of age, who had been under observation at Dr. Fordyce's clinic for six weeks. His occupation consisted of preparing the backs and handles of hair brushes for the applications of stains and varnishes. His duty was to scrape the surfaces of the unpainted or unvarnished wood with sandpaper. He never came in contact with chemicals of any kind other than those contained in the wood. For a period of three months the patient had been afflicted with



an erythemato-squamous dermatitis of the hands and face, which was associated with oedema and a stinging or burning sensation. The eruption began on the hands about two months after he began to work on the coco-bolo wood. The speaker had investigated the factory and found several men in the same department suffering from the same condition.

Coco-bolo wood, the speaker said, was a beautiful, hard, oily or resinous wood, varying in color from light yellow to a deep mahogany. It was sometimes called "bastard mahogany" and was used in cabinet making and in the manufacture of billiard cues, bowling balls, knife handles, hair brushes, etc. It came from a tree indigenous to the West Indies, Mexico and South America. It possessed neither fruit nor flower, and it had not been classified botanically. It probably belonged to the group containing the boxwood, satinwood, paduke, etc. Among mechanics it was known to be irritating to the skin of certain individuals. The powder obtained from the wood by scraping was very heavy and oily and could be removed from the skin only by vigorous washing with soap and water. It was the contention of the speaker that it was an oily principle of the wood that produced the dermatitis, in the same manner as obtained in certain members of the Rhus or Sumac family.

EPITHELIOMA OF THE LOWER LIP. Presented by DR. PAROUNAGIAN.

C. S., aged 35, a Russian shoemaker. The duration of his affection was about six years. He was presented at the October meeting by Dr. Pollitzer. The diagnosis being confirmed, an operation was advised. The Wassermann reaction was positive, and on that account he was given two salvarsan injections and several intramuscular injections of mercury salicylate. The erosion apparently healed up for a short time, but the same condition returned, more pronounced than formerly. The previous condition: half of the vermilion border of the lower lip was eroded, and studded with leucoplakia-like patches; no induration or pearly edges were noticeable. The patient complained of a burning sensation; the lesion bled readily. Some adenopathy was present in the sublingual region. Condition when presented: An erosion was present on the whole of the lower lip, the leucoplakia-like patches were more extensive than before, the lip was thicker and the upper lip appeared to be somewhat infiltrated. He complained of the burning sensation as before. Adenopathy was absent.

DR. POLLITZER said that the positive Wassermann reaction, and the fact that the lesion had improved under antisyphilitic treatment was evidence that the man had syphilis. When presented two months ago the lesions had some features that were unusual in an epithelioma. The extensive erosion had entirely disappeared under specific treatment and left behind a small erosion that was now clearly epithelioma. It seemed a reasonable conclusion that the original lesion was epithelioma and syphilis conjoined.

DR. MACKEE said that he would not make a diagnosis of malignant cancer

in this case from the appearance when demonstrated to the Society. On either side of the lip there was what appeared to be the remains of an erosion. The entire lip was the seat of a superficial scaly condition of a seborrhœic character. The speaker did not wish to imply that the condition was not that of epithelioma, for there were possibly epitheliomatous changes of a malignant nature already present. If this had not already occurred it would soon do so if the condition were to be neglected. Scaly lesions of the lip, with erosions and even cutaneous horns, would endure occasionally for years before they would assume a malignant character. This was the condition Montgomery had spoken of as seborrhœa of the lip preceding cancer, just as seborrhœic verrucae often formed foundations for a rodent ulcer. It was difficult to tell, of course, just at what point in the evolution of these lip conditions they became malignant, and it was doubtful if any one would care to employ the word benign in connection with them. For this reason they should be treated energetically. A radical surgical operation did not seem to be necessary in this case. Curettage and cauterization with the Paquelin cautery or some chemical caustic would probably suffice. Montgomery employed trichloroacetic acid with good results. The speaker, however, preferred the X-ray. The entire lower lip should be given a massive, filtered dose at one sitting. The tongue, floor of the mouth and all of the cervical lymphatics should receive prophylactic X-ray treatment.

DR. HEIMANN said that the positive Wassermann reaction showed that the man had syphilis, but gave no information about any single lesion. It might be that this was an epithelioma developing on the scar of an old syphilitic lesion.

#### EPITHELIOMA OF THE LIP. Presented by DR. LAPOWSKI.

The patient was a male; occupation, a leather cutter. In September, 1912, he had a slight burn on the lip from a cigarette. Since then a lesion started on the lower lip. He was treated locally with nitrate of silver, copper (?) or alum stick and salves. The first week in October, 1912, the lesion was covered with a thin adherent scab and the borders were sharp, practically in the same condition as when presented. No glands were enlarged. He was treated only with mild ointments such as 1% white precipitate, or lotions. Two applications of the X-ray were used.

#### CHEILITIS EXFOLIATIVA. Presented by DR. TRIMBLE.

The patient was a young woman, aged 23. She was born in the United States. The mother was alive and well. The father was dead, the cause of his death having been tuberculosis. The patient was of a nervous temperament, but otherwise was in good health. The past history was negative. The duration of the lesion was two years. Both the upper and lower lips (vermilion border) constantly exfoliated. The secretion seemed to be gummy and at times formed large thick crusts. The crusts were yellow in appearance and could be readily removed. The lips were fissured slightly, though there were no patulous gland openings. The secretion, however, seemed to be glandular in character.

DR. LAPOWSKI said he had seen this case at the Good Samaritan dispensary four weeks ago. At that time there were neither vesicles nor bullæ present, and he called it a pouriginous erythema. He believed it to be an example of a first

attack of dermatitis herpetiformis. The age of the patient, the sharply defined borders of the erythematous patches, the small size of the vesicles, and the fact that the vesicles arose from an erythematous base, and not from normal skin, were all against pemphigus.

ERYTHEMA CIRCINATUM ET VESICULOSUM. Presented by  
DR. BECHET.

M. L., aged 21, a male. About ten weeks ago, he first noticed a vesicular eruption, beginning on the arms and within a short time involving the trunk and legs. The eruption was very extensive, covering most of the arms and trunk; it showed a tendency to arrange itself in circinate groups with aggregated vesicles forming a ring at the periphery of each group. The lesions coalesced, forming large serpiginous pustules on the trunk. Here and there the vesicles had joined together and formed small bullæ. A few papular lesions were scattered at different points on the arms and trunk. There was no searring or pigmentation. The subjective symptoms were not severe. The case was shown through the courtesy of Dr. Kingsbury, in whose service it appeared.

DR. POLLITZER said that it was impossible to exclude dermatitis herpetiformis, but equally impossible to make that diagnosis positively, for though the grouping, itching and polymorphism were present, the fourth of the tetrad of symptoms necessary for that diagnosis, namely, the remission, had not occurred. He had seen cases of this kind develop into pemphigus and would urge a guarded prognosis.

DR. MACKEE regarded the case as one of vesicular erythema multiforme. The patches were large areas of fantastic configuration, many of which were outlined by vesiculation. The long duration would not necessarily speak against the diagnosis, for at Dr. Fordyce's clinic the speaker had had a number of cases of erythema multiforme which persisted for many weeks. It was possible, of course, that the diagnosis would have to be changed after further observation. As a therapeutic suggestion, the speaker thought that irrigation of the large intestine, if properly done, offered the best chance of success.

CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a man, aged 44, born in Turkey. The duration of the lesion was three and one-half years. On both legs, especially on the lower thirds, there were areas of thickened verrucous integument. The lesions were irregular in shape, and varied in size from that of a silver dollar to the palm of the hand. They were dark-brown in color, with a distinct violaceous hue surrounding. The scattered outlying papules were somewhat flat and glistening, strongly resembling the lesions of lichen planus. The Wassermann reaction was negative. The urine showed a small quantity of albumin and granular and hyaline casts. The histological specimen was on exhibition. Provisional diagnosis: lichen planus hypertrophicus.

DR. POLLITZER inclined to a diagnosis of lichen planus hypertrophicus, on account of the clinical appearance, in spite of the fact that very few of the

lesions resembled typical lichen papules, and that the microscopic picture as shown in the single section exhibited, was not that of lichen planus.

DR. MACKEE said that he had seen vegetating lesions on the lower limbs due to bromide and iodide. Dr. Trimble's patient presented a vegetating lesion in the centre of what appeared to be a large area of hypertrophic lichen planus. The speaker suggested that the lichen planus had been diagnosed as syphilis and treated by the internal administration of potassium iodide and that the iodide caused the vegetating lesion. The fact that the man had received no medicine for a long time, would not militate against such a diagnosis, for at Dr. Fordyce's clinic, the speaker had seen two cases of bromide eruption and one iodide eruption where the vegetating lesions lasted for several months after the discontinuance of the drug. It must be remembered, too, that the eruption might not appear until after the patient ceased taking the medicine.

DR. HEIMANN said that the question of the differentiation of lichen planus from lichen chronicus simplex must always arise in such cases, and was often insoluble. Sarcoma and tuberculosis were excluded by the microscopic picture. Dermatitis vegetans must be considered a possibility.

#### SARCOID. Presented by DR. LAPOWSKI.

The patient was presented before the Section in May and December, 1911.

Six intramuscular injections of 15 mg. of Fowler's solution were administered in three weeks, and the patches and rings slowly improved to such an extent that on Jan. 5, 1912, only very faint brownish-red spots remained on the sacral region and on the left lumbar side. In April, 1912, he had a slight relapse; semi-circular, infiltrated, smooth patches were seen on the left arm, the left side and the sacral region. Without any treatment the patches disappeared in four months, leaving only brownish-red, slightly raised borders. In December, 1912, dollar-sized, infiltrated patches appeared on the external aspect of both arms, disappearing in two weeks' time, when the present eruption appeared simultaneously over all affected parts without any premonitory symptoms. The lesions consisted of red patches, from millet size to the size of a quarter of a dollar, with a thin central scale, the borders slightly raised, and scattered over the arms and sides. They were either disseminated, or formed semi-circular, serpiginous or annular patches; they were only slightly infiltrated. On the sides, back of the trunk, chest and sacral region, there were separate dollar to palm-sized patches, round or annular, with free centres. They were smooth, red, raised, distinctly infiltrated and sharply defined. Some of the infiltrations occupied the former localizations (sacral regions, sides), some were fresh. They itched only slightly. An intravenous injection of neosalvarsan was without effect.

DR. MACKEE said that he was not particularly well acquainted with sarcoid, but he was under the impression that sarcoid tumors lacked the brownish color that was present in Dr. Lapowski's case. This patient, also, had a scaly macular eruption. This, together with the tumors and the slight pruritus, would suggest the diagnosis of mycosis fungoides.

DR. POLLITZER said that the fairly well-defined slightly raised patch in the middle of the back, with two nodules in it, was like sarcoid; but that the clinical

picture as a whole was much more suggestive of mycosis fungoides, especially the coming and going of some of the masses.

DR. LAPOWSKI said that he had followed this case for two years. The appearance of the tumors first and then scaly patches, was in favor of a diagnosis of sarcoid, and against mycosis fungoides.

#### FURUNCULOSIS. Presented by DR. WILLIAMS.

The patient was a male, aged 34 years, married; a steamship steward by occupation. While in Nicaragua in December, 1911, he was bitten on the right leg by a "vanilla fly." Ulcers developed at the sites of the bites, and healed only after three months, leaving scars about one inch in diameter. In January, 1912, he was in the hospital at Bluefields, Nicaragua, with black water fever, and while there developed a crop of boils on the left hip which lasted about a month, and which was accompanied by a good deal of infiltration of the tissues and discharge of pus. For the past year the bowels had been loose, moving three or four times a day, sometimes awakening the patient at night, and the tongue had been coated and the breath foul.

There were no more boils till about a month ago, when two appeared on the front of the right thigh. These were surrounded by a good deal of induration and discharged freely. They were closely followed by other, smaller boils in the same region, with less induration and less discharge.

When first seen by the speaker, January, 1913, he presented an area about 4 by 6 inches on the front of the right thigh, studded with inflammatory nodules a quarter to a half inch in diameter, in the substance of the skin, and but slightly raised above it. No pus was then visible. There were a few scars of older lesions. The whole area was somewhat swollen, but there was no marked induration, and very little tenderness. On the buttocks were the scars of the boils of last January—circular, with the skin somewhat elevated around the border. On January 6th, cultures were made from one of the boils. The only treatment had been castor oil and a wintergreen mixture internally, and Lassar's paste externally.

#### SCLERODERMA AND SCLERODACTYLIA. Presented by DR. TRIMBLE.

The patient was a young woman, single, aged 30, born in Hungary. The duration of the disease was four years. The condition began on the hands and fingers, and later appearing on the face and chest. The fingers and the hands were hard and stiff and nearly always cold. At the time of presentation the face, hands and chest were affected, the lesion extending down the front of the chest as far as the nipples. The Wassermann reaction was negative.

#### PRESENTATION OF SPECIMENS.

DR. TRIMBLE presented sections from the case shown at the December meeting as lymphangioma of the breast and side. Microscopical examination proved this to be a carcinoma.

REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(1913, cxiv, No. 3.)

Abstracted by UDO J. WILE, M.D.

TRICHOSTASIS SPINULOSA. G. NOBL, p. 611.

Under the title of trichostasis spinulosa, Nobl describes a hitherto unrecorded entity of a very curious nature, which, however, he does not believe to be a very rare one, as he was able to find six cases in a few months among the patients in his own clinic. The patient, a twenty-four-year-old man, showed over the trunk, particularly at the sides of the thorax, upper abdomen, on the shoulders and on the back, a symmetrically placed eruption of dark comedo plugs. These were raised to the extent of one to one and one-half millimetres above the surface. All of these plugs were distinctly follicular. Such lesions, extirpated and examined under the microscope in glycerine, showed a remarkable picture. The author examined over three hundred such, and in each case found a sheaf-like bundle of well differentiated hairs, varying in number from ten to forty. The length of such a sheaf was from 1.2 to 2.4 millimetres. There was absolute absence of any inflammatory or infiltrative change in the corium around the hair follicles, and the author therefore concludes that the lesion must be interpreted as a congenital dystrophic change in the individual hair follicle. The case was under observation too short a time to determine whether, after removal of such lesions, there was a recurrence in situ.

THE ANATOMY OF SEBORRHÆIC ECZEMA AND THE SEBORRHÆIC WARTS. KREIBICH, p. 628.

In continuation of his work on the lipid content of the endothelial cells in inflammation, Kreibich investigated patches of seborrhæic eczema and seborrhæic warts to study their fat content. In three efflorescences of the typical annular type of seborrhæic eczema, he found an infiltration of fat in the endothelial cells

of the papillary vessels similar to that found in traumatic inflammation, as described before. (See previous abstracts.) The fat occurred in the form of fine droplets or as crystalloid rods. Furthermore, there was found not only in the cells but also lying free in the papillæ, lipoid substance, and a distinct zone of sudanophilic substance, presumably fatty, was noted in some sections extending completely across, where the epidermis and cutis join. This was intra- and extracellular. In the rete, lipoid substance was found in very small amounts or not at all. In the horny layer and in the hyperkeratotic scale, lipoid was demonstrable, as previously described in seborrhœic eczema by Cederkreutz. Seven seborrhœic warts were investigated as to their fat content. In five, lipoid substance was found in the endothelial cells, but more striking was the presence of such substances lying free in the papillary layer, not quite reaching the basal layer of the epidermis. In the rete, again, there was particularly an absence of fat staining substance, as in the case of seborrhœic eczema, whereas a relatively large amount was found in the hyperkeratotic epithelium.

CONCERNING THE ÆTIOLOGY OF ALOPECIA AREATA AND EXPERIMENTS WITH THALLIUM ALOPECIA. A. POHLMANN, p. 633.

The author takes up in great detail the various theories concerning the ætiology of alopecia areata, together with a complete historical review of the literature of this subject. His experiments were made by feeding rats and rabbits with thallium acetate, and also by a local application of this substance in the form of a salve. By the feeding method of minimal doses, a diffuse, and in some instances circumscribed alopecia was produced, and in some cases where the treatment was sufficiently prolonged, a total alopecia resulted. This alopecia was exclusively limited to the dorsal surfaces of the animal, and local applications of thallium failed to elicit any loss of hair. A critical review of the literature, together with the results of his experiments, leads the author to conclude the following:

The so-called alopecia areata is an independent entity with a characteristic symptom complex which readily serves to distinguish it from other forms of alopecia. The most cases of alopecia areata, judging from their clinical course, cannot be interpreted in any other way than as the result of a definite contagion, the infective agent of which is as yet unknown. Now and again cases come under observation in which an infection may be ruled out. Such are the cases following trauma and those of a neurotic basis. Such cases we are able to distinguish clinically from the contagious form. Toxic causes may also at times give rise to alopecia of the areata type. This being the case, our experimental and clinical data do not permit us to ascribe to alopecia areata any single ætiological factor. Therefore, we must regard alopecia areata as a symptom complex, resulting either from infection, disturbance of innervation, or intoxication.

AN EXPERIMENTAL AND CLINICAL STUDY OF SEBACEOUS SECRETION. ERICH KUZNETZKY, p. 691.

In this article the author details the results of a very elaborate and carefully made study to determine the *pro die* secretion of sebum from the normal skin, to determine the increase or decrease in disease, and also to note the effect of diet upon such secretions.

The experiments were done as far as possible during days in which there was no great fluctuation in temperature. The subjects of the experiments were clothed in woolen underwear which had previously been extracted and re-extracted many times, until no more wool fat could be extracted from them. This underwear was worn a variable length of time and was then subjected to extraction

by ether and the ethereal extract evaporated down and weighed. In the first place it was noted that a greater amount of skin fat was excreted on the pure carbo-hydrate diet than was excreted when the diet was largely fatty. The daily physiological elimination of fat on the skin was found to vary between one and two grammes, being fairly constant and somewhat diminished in children and during cold weather. The differences in the amount under the carbo-hydrate on the one hand and on the fat diet on the other, are extremely difficult, if not impossible as yet to explain. There may be a technical error, particularly that of the temperature, which may explain a part of the discrepancy.

An interesting experiment performed by Kuznitzky was to ascertain the fat elimination of the skin after the ingestion of bromide and the production of bromide acne. He found that during the time of the bromide intake, there was a marked decrease in fat—a decrease of more than half of the daily amount which had been present before the intake and again present a number of days after the ingestion had ceased.

A chemical analysis of such sebaceous material eliminated during the experiment period revealed only a faint trace of bromine, tending to show that bromide acne is not caused by the elimination of bromine in the sebaceous glands. The author thinks it much more likely that bromide acne is bacterial in origin and that the liability to infection is augmented by the decrease of the sebum secreted.

Researches on *seborrhœa oleosa* and ordinary *acne vulgaris* lead him to conclude that *seborrhœa oleosa* itself is not the direct cause of *acne vulgaris*, but in all probability it must be regarded as a weak, although definite, defence on the part of the organism against the disease process. In the case of the face, the material was collected by scrubbing with cotton pledgets which had been soaked in ether, dried out and the fat extracted from them. It was found that the daily amount of sebum excreted on the scalp was equal in amount to that of the entire body. In *seborrhœa oleosa*, the amount excreted was far in excess of the normal amount.

#### A CLINICAL AND HISTOLOGICAL STUDY OF SKIN METASTASES IN CARCINOMA OF THE VISCERA. MARIE KAUFMANN-WOLF, p. 709.

In this article are collected sixty-five cases in which metastases of visceral carcinomata have been demonstrated in the skin. Of these, thirty-three occurred in women and twenty-two in men. In ten cases in the literature, the sex was not noted. Over half the total number were patients over forty years old. In twenty-three cases, the stomach was the primary source of the carcinoma; the uterus second, with nine cases; the rectum third, with four cases, and the remaining cases in the other viscera. The author concludes upon a close analysis of all the facts, that there is no particular reason or no exceptional relation necessary to account for the presence of metastases in the skin. With the exception of a single case, where a solitary metastasis to the skin was the only secondary lesion present, all the other cases showed metastases to other organs as well as to the skin itself. In other words, the skin metastasis was simply a part of the generalized carcinoma. Clinically, the metastases were characterized by occurring most often on the thorax and abdomen in various forms. They occurred as solitary or multiple nodules, or occasionally as flat infiltrates—the latter resembling slightly *scleroderma* or *myxœdema*. The solitary nodule may be subcutaneous in its position. In general, the secondary tumors of the skin call forth an early color in the skin and have a definite tendency to ulcerate. The development of the metastases may be astonishingly rapid,—within a few days in some cases. The exitus occurs from one to six months after the occurrence of such growths. In over half the cases, a proper diagnosis was made



only after the appearance of the metastases of the skin. In certain cases it is interesting to note that the site of the primary tumor—thanks to the character of the cancer cells—was indicated in the examination of the secondary growth.

THE HISTOLOGY AND PATHOGENESIS OF PSORIASIS. POUL HASLUND, p. 745. (*Continued.*)

In the continuation of his paper which appeared in a previous number, Haslund takes up histological studies of psoriasis, the changes in the blood vessels, œdema, cell infiltration and an extensive study of the dilation of the blood vessels. Studies were also made upon very tiny primary efflorescences, and his conclusion is that the main change is an influx of leucocytes to the epithelium with the heaping up of wandering cells directly under the horny layer,—this giving rise to a microscopic abscess formation which he interprets as a reaction against a parasite as yet unknown and of external source. In a typically developed case, the microscopic abscess formation in the epithelium, growing as it does in a transitory and recurrent fashion, makes the clinical picture of the disease a very easily recognizable one.

The article is most elaborate in its detail, and is for this reason hardly suitable for review. For a full appreciation it must be read in its entirety. It is illustrated by twenty-four beautiful microphotographs and drawings, showing particularly the formation of the minute abscesses referred to in this and in the previous review.

THE FIRST MEASURES AGAINST SYPHILIS TAKEN BY THE CITY OF NURENBERG IN THE YEARS 1496 AND 1497. KARL SUDHOFF, p. 1.

Herein is described in the most interesting fashion, the first civic measures taken against the epidemic of syphilis which swept through Europe in the last of the fifteenth century. The article is of historical rather than scientific value.

AN INVESTIGATION OF THE SPLITTING UP OF PROTEIDS IN CERTAIN DERMATOSES. AD. NEIDITSCH, p. 31

The author has undertaken an exhaustive research in various diseases, on thirty-eight patients suffering with seventeen different dermatoses, and on three controlled patients who were devoid of any dermatological condition. These patients were all given, over a like period, an accurately weighed and mixed diet. The urine of such patients was carefully used for the purpose of investigation, it being desired to ascertain a possible increase in the end split-products of digestion. In general, the entire experiment was devoid of any accurate or constant finding. A constant increase in the eliminated amino-acids could not be determined in psoriasis, ichthyosis, eczema,—indeed in any of the dermatoses investigated. Nor could an increase be demonstrated in the contents of bullæ in pemphigus. In one case, however, of chronic recurrent urticaria, a striking increase in the eliminated amino-acids was established, suggesting that in this type of case, there is a disturbance of proteid elimination.

CARCINOMA OF THE TONGUE AS A SEQUEL TO A CASE OF EPI-  
DERMOLYSIS BULLOSA (DYSTROPHIC FORM). E. KLAUSNER,  
p. 71.

The author describes herein a case of epidermolysis bullosa of the congenital type in a woman twenty-five years old, who came to the clinic for a lesion of the tongue. The bullous lesions, which the patient had had throughout her life,

had affected not only the skin but also the mucous membranes of the mouth and tongue. A few months before her admission to the hospital, the tongue had become swollen, indurated, and neighboring lymph glands had become palpable. Pathological examination of an excised piece of the tongue showed a typical squamous celled carcinoma. Klausner believes that the altered condition of the epithelium and congenital hypersensitiveness was directly responsible for the occurrence of the cancer. This relationship between the carcinoma and the underlying condition is made more probable by the fact that carcinoma of the tongue in women is a most exceptional finding.

A CONTRIBUTION TO THE STUDY OF MYOMATA OF THE CUTIS AND SUBCUTIS. PAUL SOBOTKA, p. 79.

Herein is described in detail a case of multiple myomata of the skin, and a most unusual case of subcutaneous angiomyofibroma. A definite connection between the arrector piloris muscle and the myoma was established in the second tumor. However, this was not the sole source of the neoplasm, as the muscles of the blood vessels also took part in the pathological process.

CLINICAL OBSERVATIONS CONCERNING THE PROGNOSIS OF CONGENITAL SYPHILIS. KARL MARCUS, p. 97.

From a very exhaustive study of the mothers of children congenitally syphilitic as well as of the children themselves, with particular reference to their Wassermann reactions as indicative of the prognosis, the author arrived at the following interesting conclusions:

1. Neither the age of the syphilis in the mother nor manifestations during confinement have a definite influence on the condition of the new-born child.

2. Specific treatment during pregnancy, on the other hand, shows a most beneficial influence on the product of conception.

3. Several years' treatment, however, is necessary to prevent the possibility of recurrence, and to make permanent the negative Wassermann reaction. Cases so treated showed an excellent permanent result. In a period extending over sixteen years, only one recurrence was noted in twenty-six children so treated. The intra-uterine treatment exercises also a definite beneficial result on the occurrence of congenital syphilis later in life, as shown clinically as well as by the serum reaction. The article has a series of very elaborate and instructive tables, illustrating the facts brought out in these conclusions.

OBSERVATIONS ON THE CONTROVERSY CONCERNING THE ORIGIN OF INFLAMMATION IN DERMATITIS SYMMETRICA DYSMENORRHOICA (MATZENAUER AND POLLAND). LUDWIG TÖRÖK, p. 185.

This article takes up the pros and cons of the old polemic between the German and Vienna school concerning angio-neurosis as against hæmatogenous infection. The article is very noteworthy and interesting but unsuited to an abstract.

REPORT OF A CASE OF OSSIFYING CHONDROMA OF THE SKIN. MAX STRASSBERG, p. 193.

True chondromata and osteomata of the skin are very exceptional findings. In a critical review of the literature, the author has been able to find only five cases of true chondromata although there are a much larger number of mixed tumors, such as chondro-epitheliomata, enchondromata, osteo-ado-chondromata, and osteo-chondromata. In the case described by the author, the tumor was

found on the back of the foot in a patient who had died from other causes. The tumor itself was almond shaped, of bony hardness, and it seemed to lie free in the subcutaneous tissue. Microscopic examination revealed the fact that the tumor was made up of hyaline and cartilaginous material with degeneration toward the center of the tumor, and ossifying changes and true bone formation at the periphery.

ERYTHEMA EXUDATIVUM MULTIFORME VEGETANS. KARL HERXHEIMER AND KARL SCHMIDT, p. 202

Vegetating dermatitis may, of course, be associated with any bullous eruption, but according to the authors, they have been unable to find any examples of such a dermatitis complicating bullous erythema, except the case which they describe in this article. The patient was a young girl with a typical erythema multiforme of the bullous type. On such lesions on the backs of the hands, there developed a vegetative inflammatory dermatitis. The authors examined these lesions microscopically and found a picture of an acute infectious process with the epithelial changes characteristic of vegetation. The case cleared up completely, however, within a few weeks, leaving only a slight pigmentation as a residue of the inflammatory process.

PATHOLOGICAL, HISTOLOGICAL AND EXPERIMENTAL STUDIES OF ECZEMA AND THE PYODERMIAS. HAROLD N. COLE, p. 207.

Working from Jadassohn's clinic, Cole undertook a series of experiments to determine the influence of simple inflammation in eczema; to determine further the relationship of streptococci in eczema and in the pyodermias with particular reference to their hæmolytic action; and lastly, to corroborate the experiments of Bockhart, Bender and Gerlach with the experimental production of eczematous conditions by the use of filtrates of staphylococci. The results of these very interestingly described experiments are summarized in the following conclusions:

1. For the purpose of bacteriological studies of staphylococcus and streptococcus skin infections, the method of Lewandowsky, embodying the use of slant-agar was found very adequate for the purpose.

2. In eczema, the vesicles are sterile or they may contain staphylococci. In the weeping and impetiginous eczema, there are most often staphylococci alone or these organisms and streptococci combined,—seldom streptococci alone. In the squamous forms of eczema, streptococci were not found, and staphylococci only in small numbers.

3. Impetigo contagiosa and ecthyma, the author found to be associated with streptococci alone. From suppurating lymph glands associated with impetigo contagiosa, a pure culture of streptococci was obtained.

4. In angulus infectiosus (Pèrlèche) streptococci were often found, and these usually of the long variety, but further studies are necessary before one can include this disease in the streptodermias.

5. In pityriasis simplex, the author was not able to find any streptococci.

6. In impetigo as well as in the eczemas, the streptococci seemed to disappear especially quickly from the surface of the skin.

7. Staphylococci may be found in pure culture in serous exudations, on the one hand, streptococci in purulent inflammations, on the other. (Corroboration of Lewandowsky's and Dohi's experiments.)

8. Artificial dermatoses such as those produced by croton oil are culturally and microscopically sterile.

9. The combined microscopic and cultural experiments in eczema and like dermatoses give no evidence of any influence of the surface bacteria upon the

disease process. The significance of these banal infections in the development and course of eczema could not be determined.

10. With a single exception, experiments on various dermatoses embodying the isolation of bacteria on blood-agar showed the streptococcus longus and haemolyticus as the offending organisms.

11. The corroboration of the work of Bender, Bockhart and Gerlach, e. g., artificial dermatoses by the use of filtrates of bouillon cultures of staphylococci, gave an extremely variable result when well controlled. Certainly there was no evidence to believe that these filtrates gave rise to eczemoid conditions by the action of a thermo-labial toxine. In a few cases, however, the irritative action of such filtrates seemed to be explainable on the grounds of the alkalinity of the substance. In other cases, however, this explanation did not suffice.

#### CONCERNING A HITHERTO UNDESCRIBED DERMATOSIS, "PITYRIASIS CIRCINATA." I. TOYAMA, p. 243.

The author describes herein a disease resembling closely pityriasis *versicolor* which he first described seven years ago and examples of which he has collected during the past seven years. In all, ten cases of this disease are described by him. The symptomatology is as follows:

There is a primary efflorescence of ringed scaly lesions; occasionally these are oval, and there may be a tendency to confluence as in psoriasis. The individual lesions vary in size from four to five mm. to ten to twelve cm. The eruption is usually bilateral and the color a light brown,—this color being due to a firm scale covering the lesion. The scales cover the lesions evenly from the centre to the periphery, and never show central or peripheral involution. Removing the scale leaves the base intact. The localization is typical. Most often the trunk is affected, particularly the back and the abdomen. In short, the disturbance is quite like that of pityriasis *rosea*. Subjective symptoms seem to be entirely lacking. The course of the disease is essentially chronic, in some cases having been present many years. There is exacerbation and remission of the disease referable to the season—the eruption occurring most frequently in summer, and tending to disappear during the winter months. The author expresses the belief that this eruption is of a parasitic nature, and further, of plant origin, in favor of which view he points out the following:

1. The formation of round plaques, the peripheral growth and the coalescence of such lesions to form larger plaques with polycyclic borders.
2. The similarity between this disease in color, scaling, and localization with other mycotic dermatoses, especially pityriasis *versicolor*.
3. There are certain clinical facts which suggest contagion.
4. The affection causes only slight changes in the epithelium, and no inflammatory changes in the corium.

Against the parasitic theory, is the fact that no microscopic organisms were found in the scales, and that all the cultural and inoculation investigations were negative. The author mentions that nineteen other cases beside those that he described have occurred in Japanese clinics. Pityriasis *versicolor*, however, is extremely common in Japan.

#### THE USE OF BEEF-HEART EXTRACT WITH THE ADDITION OF CHOLESTERIN IN THE WASSERMANN REACTION. RUDOLPH BOTTLER, p. 259.

Normal alcoholic beef-heart extract with the addition of cholesterin used as an antigen frequently gives more accurate results than the beef-heart extract alone. The author is of the opinion that now and again such extracts are too delicate for use, and he recommends their use only when controlled by ordinary

beef-heart extract. Especially valuable is the use of the cholesterin and beef-heart extract in beginning syphilis and in latent syphilis, where a delicate test is desired.

IMMUNITY EXPERIMENTS WITH PURE CULTURES OF THE SPIROCHÆTE. H. NAKANO, p. 265.

Working with pure cultures of the *spirochætæ pallidæ*, the author conducted a series of experiments to determine the presence of precipitins, hæmolyeins, and agglutinins, and also the production of active and passive immunity in laboratory animals, as well as to test the effect of spirochæte vaccines in patients in the active stage of syphilis. In the serum of rabbits which had been treated with pure cultures of spirochæte, spirochæte-agglutinins could be definitely demonstrated. Precipitins, however, were not present. In the serum of such rabbits the hæmolytic action upon spirochætæ in culture was definitely established. In vitro and in the serum of syphilitic patients such hæmolytic substances were not found. The production of an active immunity in rabbits by first injecting them with dead spirochætæ was unsuccessful, as were also the results of the vaccine made of spirochætæ and injected into human beings. Serum of rabbits injected with spirochætæ gives absolutely no protection against rabbit-syphilis, and has no therapeutic effect upon the course of rabbit-syphilis. Spirochætæ in living tissue have powerful resistance against strong reagents. For example, living organisms could still be demonstrated in a chancre following the injection of a ten per cent. antiformin solution into the lesion itself, even after necrosis had begun to take place.

DERMATOLOGISCHE WOCHENSCHRIFT.

(Mar. 4, 1913, lxi, No. 9.)

Abstracted by FRED WISE, M.D.

A RECURRING DERMATITIS OF THE FACE, ASSOCIATED WITH ATROPHIC CHANGES IN THE AFFECTED AREAS. RICHARD L. SUTTON, p. 245.

During the last three years Sutton encountered five cases of the condition designated in the title. He has been unable to find reports of similar types of dermatoses in the literature, and believes that such cases have heretofore been classed under seborrhœic dermatitis, or abnormal types of rosacea. Clinical and histological studies of his cases have convinced him, however, that they do not belong in either of these two categories.

In three of the patients, the lesions were located on both cheeks and on the chin, in another on the forehead and the cheeks, and in the fifth, on the cheeks alone. In a general way, the description of the lesions and their course applies to all of the cases. The lesions consisted of recurring, symmetrical, erythematous patches, sensitive to the touch and œdematous during the acute period, and associated with burning and itching. Vesiculation and desquamation were absent. Serological tests were negative and no ætiological factors were demonstrable. Local applications gave only temporary relief. Between attacks, the skin assumed a normal appearance. Some of the cases were subject to seborrhœic dermatitis and in one of the patients, there occurred an attack of œdema of the ears.

Histological studies were made from two of the cases. The stratum corneum was only slightly affected, its line of demarcation not sharply defined. The

rete was diminished in width and its cells stained poorly and not uniformly. In the basal layer were numerous shriveled and irregularly outlined cells, some of which showed a pericellular areola. The papillæ were almost totally obliterated. The elastic fibres in the papillary and subpapillary layers, although shortened and fragmented, were markedly thickened and had irregular contours. The individual strands appeared to be swollen and the upper portion of the derma, at first sight, gave the impression of being made up of poorly stained tissue. Upon closer scrutiny it was seen that some of the collagen was still present, although it took the acid and neutral stains but poorly. Here and there in the elastic network, were found aggregations of pigment cells. The vessels of the upper cutis were decreased in number and diminished in calibre. Immediately below the subpapillary layer was seen a considerable amount of round cell infiltration, with a few mast cells. A few of the blood vessels in this region were dilated, and compared with the control section, the capillaries were more numerous and there was a considerable amount of perivascular infiltration. The collagen was stained normally. The sweat glands and ducts were normal, the sebaceous glands slightly increased in size. Although there were no indications of glandular or periglandular inflammation, still many areas showed evidences of a low grade of inflammatory reaction; the subcutaneous fat remained unaffected.

The author discusses the differential diagnosis between the above affection and other dermatoses presenting a somewhat similar histological picture; among these he mentions rosacea, dermatitis venenata (*primula obconica*), erythema multiforme, pruritus hiemalis and æstivalis, lupus erythematosus and acute seborrhœic dermatitis.

As to the ætiology, Sutton suggests the possibility of a reflex cutaneous manifestation due to disturbances of the gastro-intestinal tract. Three microphotographs are appended.

#### SULFOFORM IN THE TREATMENT OF ALOPECIA SEBORRHOÏCA.

MAX JOSEPH, p. 255.

Joseph directs attention to an article which appeared recently on the subject of sulfoform, written by Sternthal, in which the latter, while admitting that sulfoform is an excellent remedy in certain cutaneous disorders, it will not accomplish what others, notably Joseph, have claimed for it, especially in the treatment of seborrhœa of the scalp with alopecia. The writer, on the other hand, challenges this statement of Sternthal's, and suggests that possibly the latter had not had sufficient material nor enough experience to judge the real value of the remedy in a certain class of seborrhœic diseases. In the treatment of alopecia seborrhœica, Joseph states that during the last five years, he has treated more than a thousand cases of this affection, and has come to the irrefragable conclusion that sulfoform is an unrivalled remedy in the treatment of this obstinate disease of the scalp.

(*Ibidem*, Mar. 8, 1913, lxvi, No. 10.)

#### POSITIVE LEPRA BACILLUS FINDINGS IN THE FÆCES OF PATIENTS WITH LEPROUS LESIONS OF THE MUCOUS MEMBRANES OF THE LARYNX. LOUIS MERIAN, p. 269.

Boeck reported the cases of two patients with leprosy affecting the pharynx, in whom the examination of their fæces revealed the presence of viable lepra bacilli; on autopsy, no leprous lesions of the entire gastro-intestinal tract were demonstrated, proving that the organisms in the fæces came from the pharyngeal ulcerations. Boeck found that the lepra bacilli in the fæces were viable and

retained their virulence for long periods of time—as much as two and one-half years.

The author repeated Boeck's investigations in three leprous patients with lesions of the visible mucous membranes in the mouth; he found the bacilli in the fæces of two of them. In one of them, the administration of potassium iodide caused the lighting up of latent leprous nodules in the skin, together with a marked increase in the numbers of lepra bacilli voided with the fæces.

The antiformin method was employed to demonstrate the organisms in the fæces. A small piece of fæcal matter was well shaken in 50 cc. of a 10 per cent. antiformin solution, at room temperature. After standing for 24 hours, the mixture was centrifugalized and smears were made from the sediment. Merian made thirty smears with Ziehl's stain and twenty with Unna's thymen-victoria blue method.

#### THE EFFECT OF ATOXYL-ACID-MERCURY IN HUMAN SYPHILIS. G. HÜGEL, p. 272.

Uhlenhuth devised a preparation of arsenic and mercury in combination, containing 24.2 per cent. of the former and 32 per cent. of the latter; the preparation was an insoluble one. This remedy was used with very good results by a number of German authorities, but when salvarsan appeared on the field, nothing further was heard of the remedy. In 1910, Lesser reported on 127 cases which he treated with mercury atoxylate and he found that by its use, much smaller doses of mercury were required when combined in this way with arsenic, than when ordinary preparations of mercury alone were employed.

Hügel treated thirty patients, in all stages of the disease, with the preparation and obtained better and quicker results with it, than he had observed with any other form of insoluble injection. The injections were well borne and caused no more pain than those following the use of mercury salicylate or calomel. In one of these thirty patients, however, there occurred a sudden attack of cardiac failure, necessitating heroic measures to save the life of the patient, who ultimately recovered completely. The author states that this is the first case on record, in which there appeared to have been a marked idiosyncrasy to the arsenic contained in this remedy; these cases of idiosyncrasy cannot be foreseen and they demonstrate the necessity for exercising great caution in the administration of organic arsenical preparations.

(*Ibidem*, Mar. 15, 1913, lxi, No. 11.)

#### MODIFICATIONS OF THE STAINING METHODS FOR TREPONEMA PALLIDUM WITH AMMONIACAL SILVER NITRATE. ARTHUR FONTANA, p. 301.

The author published, recently, a new method for the intensive staining of the treponema pallidum and other spirochætæ. In this article he contributes modifications which are improvements over the older methods of procedure. The technique which gave him the best results is as follows:

1. The material to be examined is diluted with a drop of water and allowed to dry in air.

2. The dried smear is fixed and dehemoglobinized with Hüge's Lotion A, which is made up as follows: Acetic acid, 1 cc.; 40% formol, 2 cc.; distilled water, 100 cc. This solution is applied during one minute. The solution should be employed even if the smear is colorless, in order to clearly bring out the treponema bodies.

3. Wash for several seconds in running water; then apply Lotion B, composed of: Carbolic acid, 1 g; tannic acid, 5 g; distilled water, 100 g. This is

continued for about 20 seconds, during which time heat slightly, until steam begins to form. Wash in running water for 30 seconds.

4. Apply several drops of the following Lotion C: Silver nitrate, 0.25 g; distilled water, 100 g; fluid ammoniac (added drop by drop), until the precipitate has dissolved. Heat slightly for 20 to 30 seconds and dry with paper.

The amount of silver nitrate is reduced from 5% to 0.25%, as this results in a more intense staining of the treponema, and the formation of precipitates is thereby avoided.

(*Ibidem*, Mar. 22, 1913, lxvi, No. 12.)

#### SULFIDAL, A MODERN SULPHUR PREPARATION FOR THE TREATMENT OF SCABIES. H. WINKLER, p. 333.

The desirable qualities in a preparation intended to be used as an ununction for the entire body are absence of toxicity from absorption, and that it should be unirritating, cleanly and odorless. Naphthol, epikarin, styrax, balsam of Peru, the tar preparations and sulphur do not fulfill these requirements.

Sulfidal is a preparation possessing none of these disadvantages. It is a colloidal sulphur, containing 25% of an albuminoid substance. It may be used in combination with vaseline, cold cream or glycerine, the last being the best mode of employment. The author has had strikingly good results with this preparation, in the treatment of scabies; it causes a rapid amelioration of the itching and clears up the pustules and secondary eczematous lesions after a few days' use; furthermore, it is cleanly and unirritating. In 100 cases of scabies, the average time required for a cure was ten days.

#### THE TOXIC THEORY IN THE PATHOGENESIS OF BURNS. GUIDO FERRARINI, p. 335.

The belief is gaining ground that the cause of death from burns of the integument lies in the formation of toxins which originate in the burned areas and which find their way into the general circulation, producing death by systemic poisoning. The nature of this supposed toxine has been variously described by a number of authors, as an albuminoid substance, or a ptomain, a leucomain, an ammonium carbonate, a nucleo-proteid, a free fatty acid, an albumose, a pyridin body, a fibrinogenetic ferment, a methylguanidin, a potassium salt, a substance similar to muscarin, etc.

The author has made a study of the literature of the subject and has attempted to verify or to disprove some of the observations of former investigators. The hypothesis of a toxic cause of death in these cases rests upon clinical observations, pathologic-anatomical findings and upon various experimental researches. Clinical observations show that in patients suffering from burns which have resulted fatally, a certain symptom-complex obtains, similar to that seen in cases of ordinary poisoning. That is, the patients manifest weakness, delirium, cramps, convulsions, a small pulse, hypothermia, etc., which group of symptoms does not, however, point to poisoning by any specific toxine. In other words, any of the above-mentioned poisons may be responsible for this symptom-complex. At autopsy, the lesions which are found in the various organs may also be the result of various poisons; they are not characteristic of any specific poison, or infection, or intoxication.

For example, several authors found albumose in the urine of patients suffering from extensive burns and they ascribed the toxic symptoms to the albumose present in the blood; but, as Ferrarini points out, the same substance has been found in patients suffering from other forms of intoxication, and in whom the same pathological alterations of the internal organs are present at autopsy, as in the cases which had died of burns.



Those investigators who contend that the cause of death lies in the liberation of poisons which are derived directly or indirectly from the burned areas, support this belief by stating that the juices and the watery extracts from the burned tissues contain a markedly poisonous substance; that by certain chemical procedures, these poisons may be isolated from the burned tissues; that extracts made from burned areas, when inoculated into healthy animals, will cause the death of the latter; that the urine and blood taken from animals which have suffered burns, when injected into healthy animals, will cause symptoms of poisoning in the inoculated subjects. Experiments carried out by the author, in which he tried to substantiate these claims, proved, in his hands, absolutely fruitless. In other words, he was unable to find that the burned areas contained any form of poison whatever.

Pfeiffer contended that the poisons are formed only after they had been absorbed and chemically altered in the organism of the affected animal; thus explaining the unsuccessful experiments of those investigators who used extracts directly from the burned tissues. Ferrarini believes that these poisons have their source, not in the burned tissues exclusively, but that they result from a general pathological alteration of the entire system, and that shock, and slowing of the circulation play an important rôle in the causation of the toxic symptoms observed after extensive burns of the integument. (*To be continued.*)

(*Ibidem*, Mar. 29, 1913, lxvi, No. 13.)

#### HYPOTHYREOIDISM (FORME FRUSTE OF MYXŒDEMA). ALFRED SAENGER, p. 357.

A man of fifty who had previously been in good health, had been suffering since two years from loss of memory, psychic depression, photopsia (spots before the eyes) and occasional epileptiform attacks. There was no hereditary taint, no syphilis or alcoholism, but he was a rather heavy smoker. Examination of the nervous and circulatory systems failed to reveal any abnormalities; the urine was normal. The skin of the neck appeared to be dry and indurated; the thyroid gland was not palpable. The diagnosis of hypothyroidism was made and the patient received 0.1 g. thyroid tablets daily. After five weeks of this medication, all of the patient's former symptoms had disappeared. Before taking the thyroid, the tips of the fingers were œdematous and fissured; they failed to respond to ordinary treatment, yet this affection also seemed to vanish after the ingestion of the thyroid tablets.

This is the eighth case of this type of ill-defined (*forme fruste*) myxœdema or hypothyroidism described by the author. He believes that forms of myxœdema occur, having the following characteristics: Cases in which (1) the characteristic changes in the skin do not occur; (2) the cutaneous symptoms may be absent and only the mucous membranes may be affected; (3) there may be changes in the skin, which do not show the usual lesions of myxœdema—an infiltration of the skin—but only a certain fulness; (4) the skin may not appear pale but it may have a normal color, and may even be congested; (5) the characteristic psychic symptoms may be absent; (6) the symptoms may be those of simple neurasthenia, with no mental disturbances; (7) the thyroid gland may be absent, or atrophied—an important point in arriving at the correct diagnosis; (8) as in the ill-defined (*forme fruste*) type of Basedow's disease, the cardinal symptoms of myxœdema may develop later; but in the ill-defined form of myxœdema, the milder symptoms present seem to remain stationary for a longer time, that is, they persist longer without change; (9) in considering the differential diagnosis, we have to bear in mind diseases in which one or both of the chief symptoms of myxœdema—changes in the skin and psychic disturbances—occur; that is, diseases like nephritis, chlorosis, status thymicolymphaticus and mongolianism,

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The knowledge of the "forme fruste" of myxœdema or hypothyroidism should interest the dermatologist in view of the marked cutaneous changes occurring in these cases.

### THE TOXIC THEORY IN THE PATHOGENESIS OF BURNS. GUIDO FERRARINI, p. 360. (*Concluded.*)

In order to ascertain whether the blood of animals which have suffered extensive burns contain a toxine, the author injected the heart-blood of such animals into healthy subjects, but no symptoms of poisoning resulted from these experiments. The same negative results were obtained from injections into healthy animals, of the urine of animals which had died of burns. The contention of Heyde, that anaphylaxis plays a rôle in the intoxication following burns, and that a long-continued anaphylactic shock takes place in cases of deaths from burns has been disproved by Ferrarini through a series of delicate experiments, which he described in detail. He inoculated tissues and juices from animals suffering from burns, into healthy animals, by injections underneath the dura, without being able to produce symptoms of anaphylaxis in the latter. The author comes to no definite conclusion, but admits the probability that certain substances are absorbed from the burned areas, which enter the circulation and cause injury to the organism. The blood is necessarily altered and partly destroyed by heat, and certain toxines are probably liberated, which ultimately enter the blood stream, producing the symptoms of general poisoning. What the nature and chemical composition of the toxine or toxines may be, has not been determined.

### THE TREATMENT OF SKIN DISEASES IN HEALTH RESORTS. OSKAR GOLDSTEIN, p. 368.

The author contributes a very interesting and instructive paper on the favorable results obtained from balneotherapy in the treatment of skin diseases and syphilis. The benefits derived from drinking certain medicinal waters are also ably discussed.

## DERMATOLOGISCHE ZEITSCHRIFT.

(November, 1912, xix, No. II.)

Abstracted by PHILIP FRANK SHAFFNER, M.D.

### FURTHER RESEARCHES ON THE PATHOGENESIS OF MERCURIAL COLITIS AND STOMATITIS. (*Concluded in December number.*) J. ALMKVIST, p. 949.

### PRELIMINARY REPORT ON THE USE OF THORIUM-X IN DERMATOLOGY. F. WAGNER, p. 988.

Wagner claims that good results can be obtained by using small and repeated doses of thorium in treating mycosis fungoides and psoriasis. Especially pronounced is the good result in dermatitis exfoliativa. Further work will be necessary before one can claim a definite and permanent cure in these obstinate conditions.

### CONCERNING THE USE OF NEOSALVARSAN. A. JORDAN, p. 992.

In spite of the great advantage of neosalvarsan being so soluble and although, in general, the untoward results following its use are very limited, yet one can-

not say that the new preparation is entirely without danger. In fact, salvarsan is to be preferred because of its much greater activity and therefore less need for such frequent injections as is necessary in using neosalvarsan. These frequently repeated injections have, according to Jordan and the experience of other observers, been responsible for untoward nervous complications in many of the cases.

(*Ibidem*, December, 1912, xix, No. 12.)

WHO IS THE "ANONYMOUS PALATINATE"? E. HOFFMANN, p. 1043.

Hoffmann, in an interesting article, claims that the unknown physician who died on Feb. 6, 1887 was Dr. Julius Bettinger, a canton doctor and director of an institution in Frankenthal. It was Bettinger who, through his experimental work, showed that the infectious nature of secondary syphilis was not only through the secretion of the lesions but that the disease could be produced from the blood of these secondary manifestations.

ULCUS CRURIS VARICOSUM AND SYPHILIS. F. ZINSSER AND P. PHILIPP, p. 1051.

By means of Roentgen pictures of the leg bones, sera reactions, and the use of anti-syphilitic treatment, the authors maintain that the *ulcus cruris varicosum* is syphilitic in nature. The plates show a spindle formed swelling of the fibula, pronounced ossification of the periosteum which is sometimes very thick and laminated. Zinsser and Philipp claim that syphilis settles in an area of least resistance (*locus minoris resistentiæ*); that the primary varix produces an ulcer and that in the inflamed irritated areas, syphilitic periostitis is produced.

FURTHER RESEARCHES ON THE PATHOGENESIS OF MERCURIAL COLITIS AND STOMATITIS. (*Concluded*). J. ALMKVIST, p. 1057.

Almkvist claims that the peculiar changes that occur in the mouth and large bowel, in mercurial poisoning, are dependent upon local conditions in those places.

These changes are first of all those of putrefaction. An erosion of the mucosa is the next step, followed by the formation of hydrogen sulphide. The sulphide coming in contact with the mercury-laden blood, is precipitated in the endothelial lining of the blood vessels as mercurial sulphide. The physiological function of the vessel wall is thereby interfered with, resulting in further necrosis, made more extensive in turn by bacterial invasion. From the action of this process on the vessel wall nerves, a marked vascular dilatation with hæmorrhage results.

Almkvist, by poisoning animals by injecting salts of various metals subcutaneously, investigated the precipitating power of mercury and bismuth combinations respectively, in living blood, using mercurial sulphide as a precipitating agent, and found that the combinations of lead and copper were not precipitable by means of mercurial sulphide in the living blood.

He explains the fact that the precipitation of mercurial sulphide in the lining of the superficial capillary loops produces such marked and rapid pathologic action, because mercurial sulphide has a most toxic action in its vicinity. The toxic action, in like manner, of bismuth sulphide is more limited and, therefore, the degenerative changes in bismuth poisoning are less marked.

## ZEITSCHRIFT FÜR KINDERHEILKUNDE.

(April 23, 1913, vii, Nos. 1 and 2.)

Abstracted by HARVEY PARKER TOWLE, M.D.

## THE CLINICAL SIGNIFICANCE OF SWELLING OF THE CUBITAL GLANDS. GÖTZKY, p. 113.

It was Heubner who, in 1896, first expressed the opinion that enlargement of the cubital glands possessed significance in relation to the diagnosis of hereditary syphilis. The sparse publications since that time, in general, confirmed Heubner's views. Grosser and Dessauer alone dissented, basing their denial on the statistics of 1897 histories. Götzky criticises their conclusions on the ground that statistics are valueless for such purposes. The detection of the swollen glands is too much of an art to make it possible to accept the figures of any but experts.

Götzky made a careful record in his series of the possible causes of glandular swelling present, such as tuberculosis, syphilis, rickets, eczema, wounds and all other like factors. As aids to the diagnosis of syphilis, he used the X-ray, the Wassermann reaction, the history and the status. Before recounting his results, he devotes a little space to an interesting description of the anatomy of the lymph channels and glands and to the requisites for investigation.

His first care was to satisfy himself that swelling of the cubital glands was pathological in small children and next, that it was not the result of a general systemic affection but of regional processes.

Of 647 children of all ages examined, Götzky found palpable glands in 113. Of these, 86 showed bilateral enlargements and 27 unilateral; 55 of the 86 with bilateral glands had, among other signs of syphilis, a strongly positive Wassermann. In a not unimportant percentage, the glandular enlargement and strongly positive reaction were the only evidences of syphilis, except for a more or less reliable history; 8 were considered syphilitic in spite of a weak reaction; 23 gave negative reactions, of whom 4 were labelled syphilitic by means of the X-rays. In total, 67 of the 86 were syphilitic.

The 19 non-syphilitic children with bilateral glands included 11 cases of tuberculosis, 5 of severe rickets and 3 cases of exudative eczema. Götzky regards the bilateral enlargement of the cubital glands in tuberculosis as the result of systemic invasion not, as in syphilis, of regional causes.

Twenty-seven cases showed a unilateral periostitis. In 4 the local irritation could be logically considered as the cause, but in 10 cases no explanation could be given.

As a result of his study of the X-ray negatives of the long bones of 113 cases, Götzky concludes that it is often difficult and sometimes impossible to make a diagnosis from the X-ray negative alone. Nevertheless, taken in connection with other symptoms, he has found the X-ray negative of great service.

His final conclusions are that "enlargement of the cubital glands occurs in children of all ages, even up to puberty; the majority are bilateral and the larger part of these are syphilitic. Rickets has a slight influence only, tuberculosis somewhat more. In infants, the bilateral glands are almost pathognomonic of lues. In older children, they are very suspicious and sometimes the only symptom. They have no connection with lymphatismus. As a rule, unilateral enlargements are not syphilitic. The X-ray of play and school-age children is to be accepted with care and reserve in regard to periostitis, yet it not infrequently clarifies the diagnosis."

ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(February, 1912.)

Abstracted by FRANK CROZER KNOWLES, M.D.

*Continued from page 540.*

POTT'S DISEASE OF PROBABLY HEREDITARY SYPHILITIC ORIGIN. CURED BY SPECIFIC TREATMENT. HENRI PIED, p. 299.

A condition was present strongly resembling the typical form of Pott's disease, with sacral scoliosis and the convexity to the right. The patient, a man aged twenty-four, did not commence to suffer with his back until he had reached the age of sixteen years. The intensity of the paroxysms of pain were out of all proportion to the extent of the disease. The patient was apparently robust and quite athletic. The acuteness of the angle formed by the kyphosis is also a symptom of the syphilitic *gibbosity*. The group of symptoms present suggested the possibility that the condition was not the usual Pott's disease. After four series of injections with mercury the knee reflexes of the two sides had returned and the tumor formation of the psoas muscle had disappeared.

A SUBJECT OF A CASE OF ATYPICAL BULLOUS POLYMORPHOUS ERYTHEMA. BRAC, p. 303.

The patient, a male of twenty-eight, had been subject since his eighteenth year to crops of vesicles. These vesicles were usually observed upon the soles of the feet, and the tendency had lasted for three years. During his military service he was free of the eruption. The present attack is the second of the year; the first occurred in March and the second in December. Crops of bullæ were observed upon the hands and the feet while an erythemato-papular outbreak was noted on the trunk. Some of the lesions on the fingers resembled those found in dysidrosis. The lesions upon the trunk were in annular groups. The grouping on the extremities resembled somewhat that found in Duhring's disease. The desquamation which followed the disappearance of the active lesions showed the intensity of the inflammatory outbreak. Evidently the condition was of toxic origin.

COMPLETE CONGENITAL ABSENCE OF THE NAILS OF ALL OF THE FINGERS. A. BERGE and R. J. WEISENBACH, p. 244.

A woman of thirty-seven years was born with a total absence of the nails of both hands. With the exception of this deformity the patient was absolutely normal; she was, however, of a neurotic tendency. Her child was without any abnormality of the nails. The epidermis of the bed of the nail presented a topographical resemblance to that of the normal nail bed, but the elements evolved like the keratinization of the common epidermic type and not like the ungual. The histological picture shows a complete absence of all ungual matrix, and also of outlines of epidermic invaginations. There is an absence of all recent inflammatory lesions and of all signs of an old lesion susceptible of explaining the anomaly.

INDIANAPOLIS MEDICAL JOURNAL.

(February, 1913, xvi, No. 2.)

Abstracted by R. C. JAMIESON, M.D.

THE USES OF SULPHUR POWDER IN DISEASES OF THE SKIN.

A. W. BRAYTON, p. 44.

Brayton considers that the use of sulphur powder has been neglected, and states that he has obtained good results with it in a number of skin affections, such as acne, seborrhœa, scabies and ringworm of the groin and axilla. He uses it as an ointment as well as a dry powder.

JOURNAL OF EXPERIMENTAL MEDICINE.

(January, 1913, xvii, No. 1.)

Abstracted by R. C. JAMIESON, M.D.

ABSORPTION OF ARSENIC FOLLOWING INTRAMUSCULAR INJECTIONS OF SALVARSAN AND NEOSALVARSAN. HOMER F.

SWIFT, p. 83.

Swift gives the results of his experiments on rabbits with these two preparations, showing clearly the difference in the local reaction and the difference in the rate of absorption and elimination. Salvarsan was used in alkaline and neutral solutions and oily suspensions, neosalvarsan in a distilled water solution.

Muscle necrosis occurred after injection of both salts, the gross appearance of the area being nearly the same after the different preparations of salvarsan, differing slightly in the microscopical appearance. A dry, leathery mass remained after ten weeks.

After neosalvarsan there was no limiting zone around the necrotic area, the whole mass being almost entirely absorbed in six weeks.

He found that salvarsan was absorbed at practically the same rate with the different methods of injection, about 30 per cent. being absorbed the first week and from 10 to 14 per cent. remaining after ten weeks.

After neosalvarsan injections there is as much arsenic absorbed in one week as in six weeks after salvarsan, approximately 5 per cent. remaining after six weeks. Absorption after the first week is very slow.

CULTIVATION OF TREPONEMA CALLIGYRUM (NEW SPECIES) FROM CONDYLOMATA OF MAN. H. NOGUCHI, p. 89.

Noguchi discovered a spirochæta in his work which is intermediary between the pallida and refringens.

It was found associated with the treponema pallidum in one case, and again in a non-syphilitic. He states the morphology, biology, and cultural characteristics, and differentiates between this organism and the others of this group. It is non-pathogenic in monkeys and rabbits, and under certain cultural conditions it may closely resemble certain strains of the pallidum.

## REVIEW OF DERMATOLOGY AND SYPHILIS 605

ON THE CLASSIFICATION OF THE STREPTOTHRICES, PARTICULARLY IN THEIR RELATION TO BACTERIA. EDITH J. CLAY-POLE, p. 99.

This article takes up the question exhaustively but is not well adapted to abstracting. No definite conclusions were reached.

## AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(February, 1913, cxlv, No. 2.)

Abstracted by R. C. JAMIESON, M.D.

URTICARIA TREATED WITH EPINEPHRIN. A. W. SWANN, p. 373.

Swann has treated six cases of this troublesome affection with epinephrin with very prompt results, although the eruption returned in all cases in from one hour to three days after injection. No reinjections were given when the eruption returned. Treatment consisted of two hypodermic injections, ten minutes apart, of eight minims of epinephrin.

He suggests the possibility of its value in angioneurotic œdema, œdema of the larynx and epiglottis, anaphylaxis with bronchial asthma, and also that it might be useful in differentiating rashes of vasomotor origin from those due to other causes.

## ARCHIVES OF INTERNAL MEDICINE.

(February, 1913, xi, No. 2.)

Abstracted by R. C. JAMIESON, M.D.

AN EXPERIMENTAL STUDY OF POISON OAK. EDWARD VON ADELUNG, p. 148.

Von Adelung has made a thorough and exhaustive study of the poison oak, ivy and sumach, and has performed a number of experiments upon himself and others with the toxin (toxicodendrol). The experiments proved the following facts: that as the toxin is non-volatile it is mechanically transported from the plant to the skin; that smoke from burning plants is poisonous; that the serum from vesicles is not toxic, and that the eruption is purely local.

He attempted to find support for the popular idea that chewing or eating small quantities of leaves would afford immunity, but as he could not induce such immunity in any of the cases experimented on, he came to the conclusion that all individuals are susceptible to a greater or less degree. He was unable to establish an experimental immunity in animals, nor could he find that the serum of a person only slightly susceptible retarded the action of the toxin. He protected himself by the use of hot water and soap immediately after exposure, by change of clothing, etc., or by a previous application of cottonseed oil. He found that hot water, ichthyol-collodion 5%, potassium permanganate, magnesium sulphate and tincture of iodine were of value in treatment.

## EXPERIMENTAL EOSINOPHILIA WITH AN EXTRACT OF AN ANIMAL PARASITE. W. W. HERRICK, p. 165.

Herrick was struck by the increase in eosinophiles in asthmatics and laboratory workers using *ascaris lumbricoides*, as well as the similarity in their asthmatic symptoms. He proceeded to experiment with the production of an artificial eosinophilia by the injection of extracts of ascarides. While he does not claim to have proved anything definite, he draws the following conclusions from his work:

Eosinophilia can be developed by the injection of extracts of *ascaris lumbricoides*, this increase in eosinophiles being caused by a protein.

Previous sensitization is necessary and the increase cannot be produced in immune animals, thus showing that eosinophilia is evidence of previous sensitization. He thinks there is a possible association of these facts with bronchial asthma.

(*Ibidem*, March, 1913, xi, No. 3.)

## OBSERVATIONS ON THE COMPLEMENT FIXATION TEST FOR SYPHILIS WITH CADAVER SERUM. R. L. CECIL and A. R. LAMB, p. 249.

This paper is a review of the work that has been done to date, especially by the Germans, on experiments with cadaver serum. They also experimented on fifty-six cases of their own, using an acetone insoluble residue of an alcoholic extract of human heart as antigen, obtaining positive results in six cases, five of which were undoubtedly syphilitic, the sixth being suspicious. They found that the serum should be obtained and tested as soon as possible after death, while infected or decomposed serum is not suitable. They followed the Noguchi modification with very satisfactory results.

## EXPERIMENTAL OBSERVATIONS ON THE COAGULATION OF OXALATED PLASMA, WITH A STUDY OF SOME CASES OF PURPURA. J. H. AUSTIN and O. H. P. PEPPER, p. 305.

Austin and Pepper detail their experiments along this line, but the article is not well adapted to abstracting.

They add nothing new to explain the cause of purpura.

## ARCHIVES DES MALADIES VÉNÉRIENNES.

(October, 1912, vii, No. 10.)

Abstracted by FAXTON E. GARDNER, M.D.

## INTERPRETATION OF RESULTS AND CAUSES OF ERROR IN THE WASSERMANN REACTION. LÉVY-BING AND DOGNY, p. 721.

The same blood examined by several competent pathologists often gives markedly different results. Contradictory results sometimes are seen in two-thirds of the cases. This may depend on variations of the technique, which heretofore has lacked unity. There are great differences in the care with which the antigen and complement are prepared, titrated and distributed; also in the care taken for the reading of the reaction. The only safe antigen is the extract of syph-



ilitic liver, prepared by the pathologist himself (not the commercial product); it must be carefully titrated and continuously watched. Extracts of normal heart or muscles are not good antigens, because they do not contain cholesterin (which is the base of the antigenic power) under the same physical and chemical state as heredo-syphilitic liver, as demonstrated by Desmoulière. The complement must also be titrated. The anti-sheep hæmolytic serum, the sheep corpuscles, the human serum and the saline solution must also be used according to well-set rules. No simplification method is reliable.

It would be highly desirable to adopt a uniform method of reading results. The name Wassermann reaction must be kept for the Wassermann technique.

THE ANTIGEN IN THE WASSERMANN REACTION. DESMOULIÈRE, p. 781.

The best antigens are obtained from heredo-syphilitic livers. That normal organs may play the part of antigens would tend to show that the antigenic substance is found in most normal or abnormal organs. The writer has tried to separate the antigenic substance. Previous studies have shown the importance of cholesterin in this respect. Desmoulière has obtained a very sensitive antigen, which keeps well, by adding 0.10 gm. cholesterin to 10 cc. of an alcoholic maceration of powdered heredo-syphilitic liver, previously evaporated by ether.

A CASE OF DEATH AFTER INFUSIONS OF NEOSALVARSAN. GEORGES LÉVY, p. 787.

The fatal accident began after the fourth injection (0.9 gm.). The patient, 41 years old, though seemingly healthy, had taken a large quantity of alcohol daily for the past 20 years and his liver was undoubtedly affected.

(*Ibidem*, November, 1912, No. 11).

A CASE OF CEREBRAL CONGESTION LASTING TWO DAYS AFTER A THIRD INJECTION OF NEOSALVARSAN. PERKEL, p. 801.

The patient, 23 years of age, neurotic, an inveterate smoker, had received in five days 2.55 gm. of neosalvarsan. He developed the first degree of hæmorrhagic encephalitis. High doses were to blame.

ON THE RECTAL ADMINISTRATION OF SALVARSAN. RAJAT, p. 807.

The author claims as good results as after intravenous injections; the method is less dangerous.

(*Ibidem*, December, 1912, No. 12).

HEREDO-SYPHILIS AND LITTLE'S DISEASE. BARONNEIX AND TIXIER.

The authors have studied 80 reports of cases, among which 10 were personal. They do not hesitate to ascribe a good number of cases of Little's disease to heredo-syphilis, because (a) syphilis is often found in the antecedents; (b) Little's disease is most frequently seen in prematurely born children, in children of parents having had numerous abortions or still-born children, or a high rate of mortality among those surviving; (c) some patients show also suspicious signs of heredo-syphilis, strabismus, hydrocephalus, or even undeniable signs of the latter, Hutchinson's teeth, scars, adhesions, osteitis, retinitis; (d) in a few autopsies, specific lesions of the cord and brain have been found; (e)

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the Wassermann reaction is rather frequently positive; (f) specific treatment sometimes gives excellent results.

Syphilis may be the only cause, or it is allied with obstetrical traumata.

THE ANTIGEN IN THE WASSERMANN REACTION. DESMOULIÈRE, p. 921.

The writer has obtained a good antigen with a pig's liver instead of heredo-syphilitic liver; but, in order to obtain a highly sensitive antigen with this method, it seems that a certain degree of autolysis of the liver is necessary. The author keeps up his investigations concerning the exact composition of syphilitic antigen, and hopes to be able to prepare an altogether artificial antigen, which will be fully as good as the heredo-syphilitic liver antigen, which is not always very easily secured.

## ARCHIVOS BRASILEIROS DE MEDICINA.

(June, 1912, No. 3).

Abstracted by A. RAVOGLI, M. D.

COMMUNICATION ON THE TREATMENT OF LEPROSY WITH NASTIN. MAX RUDOLPH, p. 313

The author mentions the first introduction of Nastin from the culture of streptothrix leproides, and its beneficial influence on the leprosy tubercles and on the morphea patches. He maintains the idea of an immunization of the organism against the specific bacilli, by the formation of an antinastin which protects against the poison of the streptothrix and dissolves the lepra bacillus by bacteriolysis. It makes the bacilli amenable to the action of the acids. The leproma are dissolved, and the sensibility in the anæsthetic areas of the skin is restored.

The author has treated in eight years several hundred cases of leprosy coming from the State of Goyaz. Intravenous injections of salvarsan and collargol in leprosy have given no results. Five cases under Nastin treatment have shown great improvement.

He describes the reaction of Nastin on the skin and on the general system and its action on the bacilli, which gradually lose their staining proclivity. The patient regains the sensibility in the anæsthetic parts and does not complain of fatigue and soon recuperates his strength. He reports six cases with their clinical pictures, all of which had been greatly benefited by the injections with Nastin, and claims Nastin to be the best remedy so far used in leprosy.

In the discussion following, Fernando Terra, the president of the meeting, confirmed the value of Nastin in leprosy, referring to a case under his treatment. Dr. Ribeiro da Silva spoke against the use of salvarsan in leprosy, which from his experience he claimed to be injurious. Dr. Eduardo Rabello has used Nastin in two cases of leprosy, father and son suffering with leproma, without any result.

Dr. Alcivo called attention to the Wassermann reaction, which is nearly always positive in leprosy and in some cases misleading. He, too, saw bad results from salvarsan in lepra.

Dr. Parreiras Horta, and Dr. Zopyro Goulart had discouraging results from salvarsan in lepra, but the latter advised caution with Nastin and wished to see more cases before claiming it as a cure for leprosy.

## CONTRIBUTION TO THE STUDY OF AINHUM. ZOPYRO GOULART, p. 325.

The author states, that to-day in Brazil, ainhum represents a curiosity of human pathology; the disease was imported from Africa with the slaves, and since the abolition of slavery has become gradually more rare.

He refers to a case under his observation, and with radiographs shows the disease to be in the phalanges. Etiologically, the author refuses the opinion of Peterson, who claims it to be the result of traumatic origin from flat-foot, and also objects to the idea of a trophoneurotic origin.

As to the pathological anatomy, he confirms the findings of Moreira, in the presence of abnormal formation of fibrous tissue, especially near the groove.

## ON THE USE OF SALVARSAN. FERNANDO TERRA, p. 333.

The author gives a report of 118 patients treated with salvarsan, of which 107 were syphilitics at different stages, 4 affected with boubas, 2 with psoriasis, 2 elephantiasis, 1 lepra, 8 cancer. In two cases of boubas the intravenous injections of salvarsan had some beneficial effect on the lesions. In psoriasis not at all. In four cases of Leishmaniosis (oriental sore), salvarsan was given without any effect. In elephantiasis the same negative results were seen. In leprosy, repeated injections of salvarsan, if they showed some improvement in the beginning, later the lepra recidives were much more severe.

In syphilis, in nine cases of initial lesion, salvarsan produced a prompt recovery and cicatrization of the primary sore. Roseola, papular syphilide, syphilide psoriasiformis, vegetating syphilides, and syphilitic ulcerations of the mucous membranes have disappeared, some after the first injection, some after the second. No good results were obtained in syphilitic alopecia, nor in syphilis tuberculo-ulcerosa, which was more benefited by mercurial injections. Pains in the joints, neuralgias and headaches, which trouble the patients, have disappeared after the injection with salvarsan. In tertiary syphilis with gummata and caries of the bones, some improvement was obtained.

The author points out the fact that with full doses of salvarsan, 0.6 gm., repeated twice at an interval of two weeks, no unpleasant accident was seen, but with repeated small doses he had serious troubles.

Reactive symptoms have been found sometimes after the first injection, while at other times intolerance to salvarsan was noted after the second injection. The author had three cases of death after salvarsan, but they can scarcely be entirely attributed to the remedies, as the patients were in a miserable condition.

## DIFFERENTIAL DIAGNOSIS BETWEEN BOUBA, LEISHMANIOSIS, SPOROTRICHOSIS AND BLASTOMYCOSIS. FERNANDO TERRA AND SILVA ARANJO, JR., p. 344.

The authors state that in these affections cutaneous manifestations are clinically greatly similar and a differential diagnosis is difficult. In the same way, at an advanced period of the disease, the micro-organisms causing it are not easily found.

Bouba, the same as pian, a tropical disease, extremely chronic, is produced by the treponema pertenue and has its general and local manifestations well defined. In Brazil, cases of this disease are diminishing and in the clinic in the last years there were only eight cases. After a variable period of incubation, the initial papule or tubercle shows up, together with reactive symptoms. The initial papule is not different from those of the secondary period. The initial tubercle soon ulcerates in a granular form and from the hypertrophied papillæ assumes the aspect of frombæsia.

The authors refuse the distinction of this disease into three periods as in syph-

ilis, because they had never seen gummatous manifestations nor late affections of the bones. They describe the parasite discovered by Castellani, which is related to the protozoon. It is found rather superficially in the epidermic layers, while the treponema Schaudinn is found deep in the derma.

Leishmaniosis seems to have been found for the first time in Bahia, but no scientific researches were made. It was studied scientifically in St. Paul, where several cases developed among the workmen at the railroad.

In all these cases the *Leishmania tropica* has been demonstrated. This is easily found in the scraping of the tissues or the sections, provided that the ulcer is of recent date. It affects not only the skin, but also the mucous membranes. The period of incubation seems to be 18 days. The initial lesion is a rose red papule, which is soon turned into a pustule, and has the aspect of a furuncle. It is covered with a crust, which when removed shows a cicatrized point in the middle and an ulcer in the periphery, of peculiar aspect, with the edges neatly cut, granulating bottom, moist with purulent secretion. The granulations take a vegetating character and proliferate in the form of luxuriant granulations, and in this condition it can be mistaken for a boubu papilloma. The lesions may be one or several, but the places of predilection are the exposed parts. The localization on the mucous membranes may cause a confusion with sporotrichosis or blastomycosis.

The cause of the oriental sore is a protozoon, easily stained with Giemsa or Leishman stains, round or oval, containing protoplasm with two nuclei.

The authors discuss blastomycosis and sporotrichosis with care and point out the differential diagnosis between the two diseases.

#### BLASTOMYCOSIS AND SPOROTRICHOSIS. EDUARDO RABELLO, p. 358.

The author describes the different forms of these diseases, and for each one gives a colored plate showing the clinical characters. The illustration of what he calls *granuloma ulceroso tropical*, is related to oidiomycosis. He claims to have found an organism of the species of the blastomyces. He gives an interesting photographic illustration of sporotrichosis of tuberculoid type. Photographic illustrations of the cultures of the organisms complete the interesting article.

#### MYIASIS LINEARIS. WERNECK MACHADO, p. 395.

Machado refers to three cases of creeping disease, all of which had attacked the foot; two the sole, and one the back of the foot; the affection is due to the larva of the parasite, *hypoderma lineata*, which, entering the epidermis, causes the zigzag lines. The affection is acquired on the beaches, near the sea sand, where the sarcopedes are found. Chloroform water, tincture of iodine and yellow binoxide of mercury in a salve are the best remedies.

#### DERMATONEUROSSES IN THE COURSE OF PULMONARY TUBERCULOSIS. ANTONIO ALEIXO, p. 404.

The author groups the dermatoneuroses from pulmonary tuberculosis into two classes. In one he includes those proceeding essentially (as he says) from the nervous system, and a second where the nervous system is only the place of localization. In the first he places Raynaud's disease, and the mal perforans of the foot, zoster, hyperidrosis, and anismastia (inequality of the breast). In the second, purpura and lupus erythematosus.

It is very questionable if there is any relation between Raynaud's disease and ulcus perforans, to tuberculosis.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

SEPTEMBER, 1913

NO 9.

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## EDITORIAL.

### SELF-INFLICTED ERUPTIONS.

THE elaborate thesis which Matzenauer and Pollock have recently published<sup>1</sup> again calls attention to the unsettled state of dermatological opinion in regard to the cause of the ulcerative eruptions of hysteria. The literature upon the subject indicates the existence of a widespread reluctance to accept the diagnosis of self-infliction. The effect of this reluctance is intensified by the inability of the advocates of this aetiology to explain the motive, even in many of their own cases.

The cases reported may be divided according to the ætiological views expressed into two groups. The first is compact and homogeneous because of the unanimity of opinion in regard to the cause, based upon the proved fact of self-infliction.

The construction of the second group is conspicuously loose in contrast. From the clinical point of view, the cases are bound together by the similarity which they present not only to each other but, significantly, to the members of the first group also. From the ætiological point of view, the representatives of the second group resemble one another only in a more or less negative way. They occur in association with hysteria; the actual provocative agent has not been discovered and consequently the theories advanced in explanation of their origins all rest upon pure hypothesis. The ætiological theories moreover are so numerous and so discordant and split the second group into so many small divisions that its right to a separate classification is very doubtful. As the cases of the two groups cannot be clinically distinguished from one another, it is obvious that the validity of the claim must hang upon the presentation of positive proof that its members possess a com-

<sup>1</sup> Dermatitis symmetrica dysmenorrhœica. *Arch. f. Dermat. u. Syph.*, 1912, xli, p. 385.

mon, distinctive aetiological factor or, lacking this factor, upon numbers large enough to lend support to at least the probability of one or another hypothesis. At present there exists neither proof of aetiology, nor theory whose scope is broad enough to cover many cases, even of this second group. Why then are they not classified with the compact group of proved cases?

The scientific mind is supposed to be without bias and to subordinate sentiment to the facts. When, in a given disease, say *impetigo contagiosa*, it has been sufficiently demonstrated that a certain characteristic picture is invariably the result of the action of the same, definitely proved, aetiological factor, it is the medical custom to assume that a second clinical picture, in all respects identical, must arise from the same causative factors as the first, notwithstanding the absence of the final proof. If this custom is to be followed in classifying these eruptions of hysteria, the unproved cases included in the second group should not be separated from the first. The clinical characteristics of the second cases are exactly the same as the clinical characteristics of the first group whose origin is beyond dispute.

It is a noteworthy fact that every writer reports the existence of a greater or smaller degree of hysteria. Some have even based their hypotheses upon it. They have, however, invariably considered the hysterical condition from a physical point of view. Consequently their theories have lacked sufficient breadth to be convincing. Leading neurologists are more and more inclined to change from the older belief in the physical nature of the hysterical condition to the more radical belief in its psychical nature. Brief study has convinced dermatological students that this newer psychical theory opens the way to a more complete understanding of the conditions underlying the production of these so-called, self-inflicted eruptions. Enough has already been learned to justify their belief that the psychical conditions of hysteria contain within themselves the explanation of the apparent lack of motive.

These are, perhaps, sufficient grounds upon which to argue the need of a more careful study of the psychoses. Hitherto the inability of dermatologists to agree upon the nature of these self-inflicted eruptions of hystericals has sometimes worked incalculable damage to patients. How many therapeutic errors in handling and how many mistaken surgical operations have resulted from the regrettable confusion will never be known. Bad thinking is always bad, but never worse than in medicine. Regard for the welfare of the patient demands that the dermatologist should at least investigate

a theory which offers to him such substantial promise of providing a broader and more appreciative point of view for the diagnosis of these hysterical eruptions and a consequent increase in the efficiency of his treatment.

HARVEY PARKER TOWLE.

## INTENSE BRONZING WITH CUTANEOUS TUMORS IN A CASE OF MALIGNANT LYMPHOMA (HODGKIN'S DISEASE).

By JOHN T. BOWEN, M.D., Boston.

Edward Wigglesworth Professor of Dermatology, *Emeritus*, Harvard University. Chief of Service, Skin Department, Massachusetts General Hospital, Boston.

**T**HE patient was a woman of 36, a music teacher, born in Massachusetts of New England parents. Her mother had died of tuberculosis at the age of 30. Otherwise the family history was good. When a young girl she had had much trouble with her eyes and had been unable to attend school with great regularity. She had been told at that time that the eyes were affected with scrofulous ulcers. Otherwise her general health had been good with the exception of the present trouble.

She was first admitted to the Skin Ward of the Massachusetts General Hospital on April 29, 1912. According to her statement, the present affection started two years previously, when she began to be annoyed by itching over the trunk, which was accompanied by the appearance of a few dark spots over the lumbar regions. These spots gradually spread and coalesced until they occupied a large part of the body, extending finally to the face and head. She had observed some thickening of the skin where the color was increased. This pigmentation and thickening had increased very much during the last few months and had involved the hands and feet. The itching had continued and had been accompanied by gradually increasing debility, without, however, any great loss of weight. She had been put upon Fowler's solution of arsenic in January, 1911, in 5-drop doses 3 times a day and had continued this treatment without intermission until March, 1912, a period of 14 months.

On physical inspection the most prominent feature was the dark

color of the skin, so pronounced that the patient might readily be taken for a negress. This increased pigmentation was present everywhere, except on the palms and soles. The bronzing was not quite uniform, some parts of the body being of deeper hue than others, so that in some places a mottling was produced. This was especially noticeable on the left arm and the lower legs.

In certain places a more or less pronounced thickening and infiltration of the skin and subcutaneous tissues were observed, in some places sharply bounded so that a tumor formation was suggested. The most noticeable place was on the right side of the neck, directly below the ear. The surface of the skin at the site of this tumor-like formation was slightly scaling and the pigmentation of this patch was especially deep. About the waist and extending down over the buttocks there were similar infiltrations and thickenings, varying in size, some sharply outlined, others merging gradually with the normal skin, all deeply pigmented. Similar appearances were to be seen under the left breast and about the nipple. There were no distinctly enlarged glands to be felt unless the infiltration that has been described in the cervical region involved the glands in that situation.

There were no lesions nor pigmentations upon the visible mucous membranes. Examination of the internal organs proved at this time entirely negative. The temperature and pulse were normal. The urine was normal. The blood, tested not long after admission, showed 76% of polynuclear leucocytes and 24% of lymphocytes. The Wassermann test was negative. Examination of the eyes revealed the remains of either corneal ulcers or interstitial keratitis.

On admission, the patient complained chiefly of a peculiar "uneasy" feeling of the skin, and pruritus. The pruritus was never intense. She walked rather unsteadily and was quite weak.

She remained in the hospital at this time for two months. When she left, her general condition had distinctly improved. There had been some increase in weight and she was less nervous. The pigmentation was somewhat less and the tumor-like infiltrations were less elevated, although not diminished in extent.

About two months later, on August 20, 1912, the patient was re-admitted to the hospital. It will be noted that up to the time of the patient's discharge, two months previously, there was no marked glandular enlargement. When readmitted on August 20th, numerous glands were found to be enlarged. There was a marked increase in size of the post-auricular, cervical, axillary and inguinal glands. In the inguinal region the increase was sufficient to be ap-



parent to the eye, without palpation. The physical examination was negative except that the spleen was to be felt 2 cm. above the costal border. The temperature was normal, the pulse somewhat accelerated. The urine and blood were normal. The cutaneous appearances had not changed to any extent since the patient left the hospital.

On September 10th, there developed an eruption of discrete, circinate, pea-sized macules, on the extensor surfaces of the extremities. Many of these lesions became rapidly papular and the outbreak resembled in type, color and duration, an erythema multiforme. This eruption disappeared completely in a fortnight. On October 3rd, it is noted that the patient was quite comfortable, the skin being dry and tense and considerable itching being present. The Röntgen rays had been applied to the enlarged glands, which had diminished somewhat in size under this treatment.

The patient left the hospital again on October 6th, to be readmitted for the last time on December 4th. At this time the enlargement of the glands was much accentuated. In the right cervical region there was an apparently glandular mass from 3 to 4 inches in size extending to the pre-auricular and mastoid regions. The pigmentation of the skin had increased and the cutaneous thickening was more marked. The areas of infiltrated and thickened skin presented in many instances the appearances of tumor formation, but there was no sign of breaking down or of ulceration anywhere. These tumor-like formations were much darker in color than the surrounding skin, almost black, and were most prominent on the back and lower extremities. There was a faint systolic murmur at the apex. The patient had lost weight and strength and was depressed and discouraged. Soon after entrance a severe cold developed accompanied by a cough and dyspnea, followed by the physical signs of an acute bronchitis. On December 5th, the white blood count was 18,200, on January 12th, 30,000, with increase in the lymphocytes. The patient gradually failed and died on February 5, 1913.

#### AUTOPSY.

The autopsy was performed by Dr. Oscar Richardson and the microscopic results confirmed by Dr. James H. Wright.

#### ANATOMICAL DIAGNOSIS.

Malignant lymphoma of the cervical, supraclavicular, axillary, retro-peritoneal and inguinal lymph glands.  
Slight hydropericardium.

Hydrothorax.

Ascites.

Anasarca.

Chronic passive congestion.

Infarcts of the spleen.

Slight chronic pleuritis, right.

Abscess in the substernal tissues.

Chronic salpingitis, right.

Chronic peritonitis.

Fibromyomata. Obsolete tuberculosis of a mesenteric lymph gland.

Compression atelectasis of the lower lobes of the lungs.

Septicæmia, streptococcus.

In the region of the post-auricular glands there are firm, nodular masses, the larger ones being on the left side and measuring up to 3 cm. in diameter. The nodular masses extend from this region around into the submaxillary region and down along the sternocleidomastoid on each side to the region of the supraclavicular glands. The skin of the forehead is slightly irregular and lumpy in places. In each axilla a large nodular mass is felt through the skin in the region of the axillary glands. In the inguinal region on each side nodular masses are felt. The vulva is swollen and pits on pressure. The scalp shows only patches of hair here and there. On section, subcutaneous fat is present, but small in amount. The subcutaneous muscles and tissues are pale, soft and wet. Enlarged retro-peritoneal glands resting along the aorta extend down along the iliac vessels on each side as smaller and larger nodules matted together in large masses and are in close relation with large nodules in the situation of the inguinal glands on each side. These enlarged glands measure from a few centimetres in diameter up to some 8 cm. in diameter. These enlarged lymph nodes extend in many places along the course of the great vessels and apparently press upon them. On section the tissue of these enlarged lymph nodes is generally rather pale, elastic, homogeneous, wet, and some of the section surfaces are mottled with smaller and larger dark reddish areas.

The adrenals are not remarkable.

The spleen is enlarged and presents numerous fibrous adhesions which bind it to the diaphragm. On section the tissue is of increased consistence, rather tough and the section surfaces are of a deep brownish red and rather homogeneous. The surface of the organ shows in two places yellow, smooth, homogeneous areas 2 cm. in diameter, which on section are seen to be the outer surfaces of wedge-shaped, yellowish, homogeneous, quite firm areas, sharply marked off from the surrounding splenic tissue.

#### BACTERIOLOGICAL REPORT.

Culture on blood serum. Heart. Characteristic growth of streptococcus pyogenes.

#### MICROSCOPICAL EXAMINATION.

**TUMORS.** Sections from eight pieces of tumor tissue in various situations show an atypical lymph-adenoid tissue. Some of the tumors have considerable resemblance to lymph nodes, being invested with a connective tissue capsule and having some lymph sinuses. Germinative centres, however, are absent. In addition to small lymphocytes in the tumor tissue, there are a good many larger cells of the lymphocyte series irregularly distributed. The stroma is generally poorly developed. Several sections stained by Levaditi's method failed to show the presence of microorganisms.

**SKIN.** Sections from four different places show all essentially the same thing.

In the epidermis there are no striking lesions. There is apparently some atrophy. In the corium and in the tissues immediately beneath there is more or less infiltration with the lymphocyte series. The infiltration is marked about the hair roots and sweat glands. In the papillæ are groups of medium-sized cells containing brown pigment granules.

OVARY. Typical tuberculosis.

SPLEEN. Increase in the interstitial connective tissue. A necrotic area is present, margined by connective tissue.

LIVER. Fatty metamorphosis of liver cells in the peritoneal portions of the lobules. Degeneration of the liver cells in the central portions of the lobules.

KIDNEY. Some small foci of infiltration with lymphoid cells. Little or no increase in the interstitial connective tissue. No arteriosclerosis. The glomeruli show fairly well-marked proliferation and fusion of the endothelium of their capillaries. The glomeruli are not large.

ADRENALS. Not remarkable.

PANCREAS. Not remarkable.

The interest of this case lies chiefly in the depth of the pigmentation and in the obscurity of the diagnosis until the lymphatic tumors became pronounced. When first seen there were simply deep bronzing, some thickening of the skin in places and debility. Of tumor formation or of a preceding eczematoid eruption, like that of mycosis fungoides, there was no trace. The question as to how far the bronzing might have been due to the prolonged ingestion of arsenic forced itself upon consideration. It could not indeed be shown that this was not a factor in the production of the pigmentation, although the remarkable chain of tumors found at the autopsy in the retroperitoneal region would sufficiently account for this phenomenon. In the long-continued pruritus and thickening of the skin there is considerable analogy with mycosis fungoides; in fact, before the appearance of the lymphatic tumors, this affection was most prominently considered.

Cases somewhat similar to the present one have been recorded, although the intensity of the pigmentation and the extent of the lymphatic tumors and infiltrations is remarkable. The similarity of the case in some respects to mycosis fungoides lends a further support of the theory that mycosis fungoides is a form of leukemia, a belief that is gaining more and more adherents. The tumor formations in the case reported were larger and more extended than those heretofore described as occurring in connection with malignant lymphoma and suggest forcibly a connecting link between these two affections—mycosis fungoides and malignant lymphoma.

## THE LEUCOCYTES IN SYPHILIS.

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IN reviewing the work that has been done upon the blood of syphilitic patients one must be struck by the fact that since the furor that was raised by Lestorfer's "Syphilitic Blood Corpusele," most of the researches performed upon syphilitic blood have been either in relation to the Justus test, or in relation to the Wassermann reaction or some of its modifications. It is true that Rille, Peter, Jelenew, Hauck, Bièganski and Watabiki have studied the leucocytes, but with the exception of Hauck and Bièganski none of the observers have paid any especial attention as to how much treatment the patient had received, a point of the greatest importance.

In Morrow's System of Dermatology and Syphilis there is a lengthy article by Zeisler, thoroughly reviewing the work that had been done up to that time. None of the later books say more than a word or two regarding the leucocyte picture.

In general, there are the following opinions regarding the behavior of the white cells:

PRIMARY STAGE.—In an excellent summary Cabot states the number of leucocytes is somewhat increased, the percentage of small mononuclears rising at the expense of the polymorphonuclears. On the other hand Watabiki states that the total count is unchanged, that the lymphocytes are about normal and the polymorphonuclears are slightly increased.

SECONDARY STAGE.—Cabot says that a leucocytosis may occur with an actual and relative increase in the lymphocytes. Watabiki, who, by the way, disregards the effects of treatment, thinks that the total count is a trifle low and that the neutrophils are normal, the lymphocytes and mast cells increased. Hauck states that the total count is within normal limits, but puts this limit much higher than most observers. Bièganski has found the lymphocytes, both large and small, increased. Rille holds that the eosinophiles are increased during a widespread papular eruption, but Peter thinks that

an eosinophilia is always due to some other cause and never to syphilis alone.

**TERTIARY STAGE.**—Cabot says that here there may be a severe anæmia with a leucocytosis, lymphocytosis and an increase in the myelocytes. Watabinski maintains that the total count is usually smaller, that the eosinophiles and mast cells are slightly increased and that myelocytes are frequently found, the other cells remaining about normal.

Emerson states that a low red cell count with a high lymphocyte count points toward a severe infection. Engel describes a case of hereditary syphilis in which the percentage of polymorphonuclears rose as the child became worse and considers that some prognostic importance can be attached to such a condition. Watabiki quotes Brown as having made a similar observation.

The following study has been made with the idea of trying to ascertain just what is the condition of the leucocytes during the various stages of syphilis, the effect of the character of the eruption, age of the patient, sex, race and treatment, and whether or not the differential leucocyte count is of any diagnostic or prognostic importance.

It is evident that it is first necessary to be certain of the total and differential count in normal individuals. Bunting's recent article gives the following results:

	Total	P.	E.	L. M.	S. M.	Tr.	M.
Probable limits . . . . .	6000-8000	50-60	0.8-4.0	0.6-2.0	30-40	6-8	0.4-1.8
Average . . . . .	7500	54.6	3.2	1.6	33.1	7.4	0.8

My own results in 25 healthy young people, 15 negro and the remainder white, who have probably never had syphilis, have almost coincided with Bunting's statistics. So far as limits go, it is probable that a normal person may show a total count of 10,000. The average eosinophile count was 2% and the transitional count 4%, but otherwise my figures are almost identical with Bunting's. As will at once be noticed these counts are very different from those given in the text-books on hæmatology, where the normal neutrophile count is said to be about 70%, and the small mononuclear count about 23%.

The syphilitic patients were those admitted to the wards of the Freedmen's Hospital or ambulatory patients visiting the dermatological dispensaries at either my own service at the Freedmen's Hospital or Dr. Gilchrist's service at the Johns Hopkins Hospital. In all, counts were made upon 125 patients, a total of 175 counts being

done. The patients who were admitted to the hospital had their leucocyte counts done by Dr. Van Swearigen, pathologist to Freedmen's Hospital. The counts upon the dispensary patients were done by me. In some few cases of syphilitics at the Johns Hopkins it was impracticable to do total leucocyte counts. In doing the differential counts, smears were made directly upon glass slides and at once stained with the Jenner stain, as it proved very easy to handle and the results with it were uniform. In the first 50 cases control slides were stained with either Wright's or Hasting's stains and counts of 500 cells done upon both slides. In the later cases two slides were stained by Jenner's method and in any case where the count seemed to vary far from the normal counts were made upon both slides. In every case the count upon the two slides exactly tallied. In all cases 500 cells were counted upon the first slide and a mechanical stage was always used. All of the differential counts were done by me, so it is certain that the same classification of leucocytes was employed throughout.

The classification of leucocytes employed by Ehrlich was used. This is as follows:

1. Polymorphonuclear neutrophiles are the most common white cells of the blood. The nucleus is polymorphous and stains deeply, while the protoplasm is granular, the granules being small and taking a faint acid stain.
2. Eosinophiles have a similar nucleus to the neutrophiles, but the granules are much larger and take an intense acid stain.
3. Large mononuclears are much larger than red blood cells, over 10 microns in diameter. The nucleus is round or indented, but never polymorphous and the protoplasm is without granules.
4. Small mononuclears or lymphocytes are not over 10 microns in diameter, have a round or slightly indented nucleus and a non-granular protoplasm.
5. Transitionals are large, non-granular cells which have a polymorphous or lobulated nucleus.
6. Mast cells or basophiles are cells whose nucleus does not stain well, but whose granular protoplasm takes on a deep basophilic stain.
7. Myelocytes are normally cells of the bone-marrow and resemble the polymorphonuclear neutrophiles or eosinophiles, of which they are the parent cells, except that the nucleus is round.

Whenever there has been doubt as to the classification of a cell the rules laid down in Emerson's book have been used as a guide.

This work was well under way before it was possible to have the Wassermann reaction done upon all patients, hence no reference is made to it, although the test was done upon nearly all of the later cases.

## I. RELATION OF COUNT TO THE STAGE OF THE DISEASE.

A. PRIMARY STAGE.—Differential counts were done upon but 4 patients having chancres, far too small a number of cases from which to draw any reliable deductions. The average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
11000	63.3	1.4	0.8	29.9	3.6	0.8

In these cases there is a slight leucocytosis, all cells sharing in the increase, but with neutrophils showing the greatest increase.

B. SECONDARY STAGE.—Eleven untreated cases of less than one week's duration give the following results:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
11850	61.3	1.7	1.0	32.5	3.0	0.4

Eight untreated cases of two to three weeks', inclusive, duration give:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
11300	57.5	2.3	1.2	35.6	2.6	0.7

There were 5 cases of two to three weeks' duration, but which had been treated. The results in these cases are not valid, for 2 of the cases give very low lymphocyte counts, due, perhaps, to very severe infections. The counts, however, average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
14200	62.1	1.7	0.8	31.7	3.3	0.5

Seventeen untreated cases of four to six weeks' duration give as an average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
11270	57.1	2.9	1.2	34.7	3.3	0.7

Nine treated cases of the same duration give:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
13000	52.9	2.4	0.8	39.9	3.3	0.5

The 10 untreated cases of from seven to twelve weeks' duration give:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
14600	63.0	2.6	1.0	31.1	2.0	0.4

Fourteen treated cases of the same duration average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10100	53.2	3.0	0.7	39.8	3.3	0.3

There were but 3 secondary cases that had lasted from three months to one year without treatment; these average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10000	53.0	1.2	1.2	40.6	3.2	0.4

Nineteen treated cases of the same duration average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9500	53.5	2.1	0.7	40.1	2.9	0.3

It is evident that there is generally a slight leucocytosis in the secondary stage, although it is not possible to tell just when it is the highest. Some few cases give a fairly high total count, 22,000 being the highest. It has not been possible to determine what fac-

tors caused some syphilitics to have higher counts than others. In the early cases that have had treatment, the total white count is rather higher than in the untreated cases, but in the cases of over seven weeks' duration the reverse is true. The polymorphonuclears are rather higher than the average in the untreated cases, so it is evident that in the increase of the leucocytes the neutrophils have increased more than any of the other cells. On the other hand, in the treated cases, the lymphocytes are rather higher than the average, so one must conclude that the administration of anti-syphilitic treatment, either mercury or salvarsan, causes a rise in the lymphocytes at the expense of the neutrophils. Twelve out of 53 untreated cases have the small lymphocytes averaging over 40%, the highest count being 57.4% out of a total of 10,000 leucocytes (Case 36) and but 6 cases show counts under 20%; out of 47 treated cases, 18 show the small lymphocytes to average over 40%. The highest count is 65.2% in a count of 8,000, in case 17. Five cases have eosinophile counts averaging over 5%, but the highest count is 7%. There seems to be good reason to believe that a very slight increase in eosinophiles is more than an accidental finding in cases of secondary syphilis, for the eosinophiles are higher than in control cases. An eosinophile count that is higher than normal seems to bear absolutely no relation to the extent or severity of the eruption. The large mononuclears, transitionals and basophiles are unchanged, not having participated in the increase of the polymorphonuclears and lymphocytes. In only two cases are myelocytes found, and then not more than two.

C. LATE STAGE (OF OVER ONE YEAR).—Cases of one to five years' duration, which have had no recent treatment, 8 in number, average:

Cases of one to five years' duration, which have had no recent treatment, 8 in number, average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
8800	57.5	1.5	0.7	36.5	3.8	0.8

Twenty-two cases of the same duration, but which had had much recent treatment, average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9500	58.7	1.5	0.5	35.6	2.8	0.2

Thirteen cases of over five years' duration, which had had no recent treatment, average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9400	60.5	1.9	1.0	32.9	2.9	0.4

Twenty-four cases of the same duration, but with recent treatment, average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10200	57.9	2.0	1.0	34.6	3.5	0.5



Cases of syphilis of over one year's duration do not average a leucocyte count higher than normal, except in treated cases and here the rise is only from 1,000 to 2,000 cells. Only one untreated case shows a marked leucocytosis (Case 64) and he was markedly anæmic and with very large glands, that eventually caused his death. The neutrophiles are about normal, both in the treated and untreated cases. The lymphocyte average is also about normal in both classes of cases, although a trifle higher in the treated cases. Of 21 untreated cases only 5 show a lymphocytic count of over 40% and no case over 45%. No case shows over 5.0% of eosinophiles. The eosinophile average is not as high as in the secondary cases, nor do the individual counts run as high. The other cells are of no particular interest. Myelocytes are found in only one of the cases, although always carefully looked for. One case of gumma of the knee shows very numerous nucleated red blood cells, but no myelocytes.

## II. RELATION OF THE COUNT TO THE TYPE OF THE ERUPTION.

Owing to the fact which will be so clearly shown a little later, that treatment markedly changes the blood picture, only the untreated cases will be considered.

A. Follicular or miliary syphilides are represented by but 3 early untreated patients, all negroes, whose counts average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
14400	65.6	2.3	0.7	29.3	1.7	0.3

B. There are 9 cases of small papular syphilide, whose counts average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
12000	58.0	2.5	1.2	35.0	2.7	0.4

C. In the 8 large papular, including annular, cases, all negroes, the average is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9700	50.5	2.6	1.4	42.0	3.4	0.6

D. The 5 macular cases average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9200	65.4	1.6	1.8	26.8	3.9	0.3

E. The 7 pustular cases, all negroes, average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
13000	60.6	2.2	0.7	33.4	2.7	0.3

F. In 5 cases with recurrent secondary eruption the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
8000	57.2	2.6	0.5	36.1	3.0	0.5

G. In the 7 secondary cases that show no cutaneous eruption, with the exception of condylomata, the counts average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10200	59.2	2.8	0.5	34.1	2.5	0.5

The most striking point about this series of cases is that the large papular cases show a small percentage of neutrophils and a high percentage of lymphocytes, the total count being lower than in the other types of eruption.

### III. RELATION OF RACE TO THE BLOOD PICTURE.

In this series all deductions are drawn from the untreated cases, of which there are sufficient to give a proper average.

In the early white cases the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9000	66.5	1.5	1.4	26.6	3.3	0.3

In the early negro cases the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
12200	58.6	2.6	1.0	35.0	2.8	0.5

B. In the late white cases the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10700	63.1	1.0	0.8	32.1	2.3	0.5

In the late negro cases the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9000	58.9	1.9	1.0	35.1	3.6	0.4

The differences, especially in the early cases, are rather striking: in the negro the total count is much higher. The increase is apparently due to an actual increase in the lymphocytes and neutrophils. Curiously enough, in the late cases, the total count is much higher in the whites, although the relative lymphocyte count is still higher in the negro. These figures will not explain why the cases of large papular syphilis, all of which in this series have occurred in the negro, show a low total count and a high lymphocytic count, for both the pustular and follicular cases, all of which also occurred in the negro, show a nearly normal lymphocytic count. It is possible that the higher percentage of lymphocytes usually found can be explained by greater glandular activity, for it is a well-known fact that enlarged glands are much more constant in the negro in syphilitic conditions, and yet cases with marked glandular involvement do not show an unduly high lymphocytic count.

### IV. RELATION OF SEX TO THE BLOOD PICTURE.

Here, also, there was an abundance of untreated cases from which to draw reliable conclusions.

A. In the early secondary stages the males give the following average count:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
12400	61.1	2.3	1.2	32.4	2.8	0.5

Females give the following blood picture:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10800	57.5	2.7	1.0	35.3	2.9	0.4

B. In late syphilis in males the counts average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9600	61.0	1.3	1.0	33.3	3.0	0.5

In late syphilis in females the average is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
8600	59.2	2.7	0.8	34.6	3.5	0.9

Males give a trifle the higher total count, but females give the higher lymphocyte count.

#### V. RELATION OF AGE TO THE BLOOD PICTURE.

A careful analysis of cases in respect to age shows only one fact of any moment, namely, that the cases under eighteen years of age, have a rather high neutrophile count. The average of these 5 cases is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
13100	65.9	3.9	2.0	25.2	3.3	0.3

#### VI. RELATION OF MARKED LYMPHATIC INVOLVEMENT TO THE BLOOD PICTURE.

In 5 cases in this series there was very marked glandular swelling; counts in these cases give the following average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
12000	59.9	2.3	1.0	34.5	1.7	0.6

It is evident that glandular enlargement and high lymphocyte counts do not necessarily coincide.

#### VII. RELATION OF SEVERITY OF INFECTION TO THE BLOOD PICTURE.

Eleven secondary untreated cases that show very mild lesions and symptoms give the average count:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10500	56.2	2.7	1.5	35.6	3.3	0.5

Fifteen secondary untreated cases of marked severity average:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
13400	68.0	2.6	0.8	25.1	3.0	0.5

The severe cases show a higher total and a higher actual and relative neutrophile count than the milder cases. The milder cases show a higher lymphocyte count. In the severe cases, but 3 (Cases 14, 27 and 39) show a lymphocyte count higher than 28%. The other cells show nothing noteworthy. Two of the mild cases (Cases 33 and 40) have low lymphocyte counts.

#### VIII. RELATION OF THE BLOOD PICTURE TO PROGNOSIS.

Eight cases of early untreated syphilis, showing secondary manifestations, were followed for several years; all did well, responding kindly to treatment and not suffering relapses when it was temporarily discontinued.

The average count in these cases is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
12500	53.9	3.5	0.9	37.4	3.2	0.9

Two of these cases (Cases 9 and 32) show low lymphocyte counts, about 20% each, while the remaining cases (Cases 8, 15, 17, 29, 32, 38 and 48) show high lymphocyte counts.

Six cases of secondary syphilis (Cases 5, 21, 34, 35, 44 and 76) did badly under mercury by mouth, inunction or injection, and 3 of them failed to clear up under salvarsan. In Case 77 the first count was made after two injections of succinimide had been given; but in the other cases counts were made before treatment was instituted. The average count in these 6 cases is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
13900	73.4	3.9	1.0	18.2	2.7	0.3

The neutrophile count in these cases is high and the small mononuclear count very low, only one case, No. 35, having a count of 27%.

With one exception all of these cases were followed for at least two years and several other counts made: the average of the counts, made several months after treatment had been begun, and regularly kept up, is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
10000	51.3	2.9	0.4	41.4	3.4	0.4

It is evident that a deficiency in lymphocytes can not be a factor in the intractable course of the disease, for these cases continued to do badly for months after the lymphocyte count had risen to above

normal. The essential fact is that all cases that did badly showed a low lymphocyte count and that every case that showed a high lymphocyte count did well. Some individuals that did well showed a low lymphocyte average, but in these the infection was severe.

In 6 tertiary cases in which the count was made before treatment was instituted and which did well under treatment, the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	B.
9000	53.0	2.1	0.9	41.0	2.6	0.3

In 3 cases which refused to heal under either mercury or salvarsan, the average count, made before treatment was begun, is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
11700	65.8	0.7	1.1	27.7	3.6	0.7

While these counts are very few in number, yet when one considers that the secondary cases show the same features, namely, a low proportion of lymphocytes in the cases that refused to respond to treatment, it is evident that some importance must be attached to this fact.

#### IX. RELATION OF THE LEUCOCYTE COUNT TO TREATMENT.

In all articles that deal with the blood in syphilis, the statement is invariably made that the administration of mercury causes a rise in the percentage of neutrophiles and a fall in the percentage of lymphocytes, as well as a fall in the total count. This seems to depend upon the work of Biéganski and of Hauck. Biéganski, in a study of 17 cases found that there was a fall in the total count and that the average rise in the relative neutrophile count was 5%, with a corresponding fall in the lymphocytes, while Hauck stated that in the secondary stage the administration of mercurials did not change the percentage of neutrophiles, but did cause a slight fall in the percentage of lymphocytes.

In the paragraph devoted to the relation of the leucocytes to the stage of the disease, it has been shown that the cases under treatment, either by mercury or salvarsan or a combination of the two, show a lower total count, a lower percentage of neutrophiles and a higher percentage of lymphocytes.

1. EFFECT OF ADMINISTERING MERCURY TO NON-SYPHILITIC INDIVIDUALS.—It is usually stated that the administration of mercury to normal men will cause a rise in the absolute and relative

lymphocyte count. That this statement is true is shown by the following experiments: Through the kindness of Drs. Balloch and Erving, surgeons to the Freedmen's Hospital, 10 minor surgical cases in the wards of the hospital were put at my disposal. These were cases of flat feet, fractures and similar cases. Care was taken to exclude syphilis. The first count was not made until the patient's blood had become normal. These cases were put upon mercury by mouth for periods varying from two to six weeks and another count then made. The average count before treatment is:

Total	P.	E.	L.M.	S.M.	Tr.	M.
9000	62.4	2.4	0.6	30.9	3.0	0.5

The average count after treatment is:

Total	P.	E.	L.M.	S.M.	Tr.	M.
8000	59.0	2.6	0.4	35.2	3.0	0.5

The administration of mercury to non-syphilitic individuals causes a slight fall in the total count and in the relative neutrophile count and a rise in the relative lymphocyte count.

2. EFFECT OF MERCURY BY MOUTH IN SECONDARY SYPHILIS.—In 4 cases the average count before treatment was begun is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
14100	55.3	5.0	1.3	33.2	3.5	1.2

After two to six weeks' treatment the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
11000	44.6	3.6	0.7	46.3	3.8	0.7

In these few cases there is a marked fall in the total count and in the actual and relative neutrophile counts and a marked rise in the relative lymphocyte count. In one of my cases (No. 48) the reverse is true, for under treatment the lymphocytes fell from 55% to 31%. As this case is absolutely unique in my records it has been disregarded at this point.

3. EFFECT OF INTRAMUSCULAR INJECTIONS OF MERCURY IN SECONDARY SYPHILIS.—In 5 cases mercury was administered in the form of the succinimide,  $\frac{7}{8}$  gr. twice a week, or one grain of the salicylate once a week. The average count before treatment was begun is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
11200	68.4	1.1	1.2	25.0	4.0	0.1

After treatment, varying from two to six weeks, the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
11500	50.3	2.7	0.6	41.6	4.3	0.3

In these cases there is no change in the total count, but a relative and actual decrease in the neutrophils with a corresponding rise in the lymphocytes.

4. EFFECT OF INTRAMUSCULAR INJECTIONS OF SALVARSAN IN SECONDARY SYPHILIS.—In 3 cases where salvarsan was administered in suspensions of oil the average count before treatment was begun is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
15800	70.1	3.0	0.9	22.5	3.2	0.5

Counts were again taken in from two to three weeks after injection, no mercury having been given in the interval, and the average of these counts is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
12200	59.2	2.7	1.0	33.6	3.0	0.6

Salvarsan has the same effect as mercury.

5. EFFECT OF MERCURIAL INJECTIONS UPON TERTIARY SYPHILIS.—In 3 cases in which counts were taken before treatment was begun, the average of these counts is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
9000	56.6	2.9	1.4	35.8	3.6	0.4

After several weeks' treatment the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
8000	53.6	3.1	0.5	40.5	2.0	0.5

Here the general trend is in the same direction as in the secondary cases, but is not so marked.

6. EFFECT OF SALVARSAN UPON TERTIARY SYPHILIS.—In 5 cases the average count before administration is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
8200	59.6	1.4	0.7	34.4	3.1	0.6

Several weeks after treatment, no mercury having been administered, the average count is:

W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
8200	61.3	1.5	0.7	33.1	2.3	0.4

Here there is practically no change.

Inasmuch as the work of Biéganski and Hauck differs markedly from mine, the cases that received mercury are here appended, for the point is an important one:

	W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
Case 5. Before treatment	.....17700	78.8	1.2	0.8	17.8	1.4	0.0
After treatment	.....10000	48.6	1.8	0.6	44.0	4.8	0.2
Eighteen months later..	8000	45.6	1.8	0.2	48.0	3.6	0.8
Case 12. Before treatment	.....14400	71.8	1.4	0.6	21.0	4.6	0.6
After treatment	.....12600	61.8	4.0	0.8	30.8	2.6	0.0
Case 15. Before treatment	..... 8000	46.6	2.0	4.4	37.4	8.0	1.6
After treatment	.....12000	40.4	2.6	1.0	50.8	3.2	2.0
Seven weeks later	..... 9000	54.6	1.8	1.4	37.6	4.4	0.2
Case 17. Before treatment	.....12000	38.6	6.6	0.2	52.4	0.2	1.8
After treatment	..... 8000	28.2	5.0	0.2	65.2	1.2	0.2
Six weeks later	.....10000	31.4	2.0	0.4	61.2	3.8	1.2
Case 21. Before treatment	..... 7000	84.2	0.4	0.6	11.0	3.6	0.2
After treatment	..... ....	60.0	1.8	0.2	34.4	3.4	0.2
Four weeks later	.....15000	51.0	1.8	0.6	40.8	4.8	1.0
Case 24. Before treatment	.....10000	44.2	1.6	0.6	51.0	1.6	0.4
After treatment	..... 7000	53.2	2.0	0.4	42.0	2.0	0.4
Case 29. Before treatment	..... 7000	58.8	1.4	0.4	37.2	1.8	0.4
After treatment	.....12000	33.2	0.8	1.6	61.6	2.8	0.6
Case 31. Before treatment	..... 7000	70.8	1.6	2.8	18.0	6.8	...
After treatment	.....12000	52.8	3.4	1.2	31.0	7.6	...
Two months later	..... 9000	57.0	2.8	0.8	37.0	1.8	1.0
Case 32. Before treatment	.....22000	73.0	4.6	0.6	19.6	1.8	0.2
After treatment	.....16000	52.8	6.0	0.6	36.6	3.6	0.4
One week later	.....12000	61.6	4.6	1.2	28.8	3.2	0.6
Case 34. Before treatment	.....14600	64.2	6.8	0.0	23.6	4.2	1.2
After treatment	..... 8100	57.0	3.4	0.4	35.2	3.4	0.6
Case 35. Before treatment	..... 9000	63.2	7.0	0.6	27.8	1.2	0.2
After treatment	..... 9000	48.5	3.0	0.0	47.5	1.0	...
Case 36. Before treatment	.....10000	36.6	1.0	1.4	57.4	3.6	...
After treatment	..... 9000	36.6	2.4	1.0	57.6	2.0	0.4
One month later	.....12000	30.4	2.6	2.0	65.2	1.2	0.4
One month later	.....10000	40.2	1.4	0.6	55.2	2.4	0.2
One month later	..... 8000	48.4	2.4	0.4	45.2	3.2	0.4
Case 48. Before treatment	.....14000	35.0	2.6	1.0	55.6	5.0	0.8
After treatment	.....14000	65.2	1.8	...	31.0	1.6	0.4

In these 13 cases of secondary lues the counts made before and after treatment average:

	W.B.C.	P.	E.	L.M.	S.M.	Tr.	M.
Before treatment	.....11700	58.9	2.9	1.1	33.0	3.3	0.5
After treatment	.....10600	48.1	2.6	0.7	44.5	3.0	0.4



There can be no doubt that the administration of mercury in secondary syphilis causes a slight fall in the total number of leucocytes, an actual and relative decrease in the number of neutrophiles and a rise in the relative number of lymphocytes.

#### X. HOW SOON AFTER THE ADMINISTRATION OF MERCURY DOES THE BLOOD PICTURE CHANGE?

In Case 32 a count made just before treatment was started showed 73% of neutrophiles and 19% of lymphocytes. Treatment consisted of  $\frac{3}{4}$  gr. of protiodide by mouth daily. At the end of nine days the neutrophiles were 53% and the lymphocytes 36%. Many other cases showed marked changes in two weeks.

8. WHEN MERCURY CAUSES A HIGH LYMPHOCYTE COUNT, HOW LONG WILL THIS CONTINUE IF MERCURY IS KEPT UP AND HOW LONG IF MERCURY IS DISCONTINUED?—In Case 29, in which mercury was steadily taken for 19 months, at the end of that time there were 32% of neutrophiles and 61.6% of lymphocytes. In Case 5, where the treatment was irregular, at the end of 17 months the lymphocyte count was 48%. In Case 36, at the end of two months, the lymphocytes numbered 65%, one month later 55% and a month after that 45%, mercurial injections being kept up all of the time. In a number of cases which had taken mercury steadily for a number of years (Cases 96, 24, 100, 102, 104, 105, 106, 107, 108, 109, 113 and 114) the lymphocyte average was 32.4%. The tendency is for the count to become normal with treatment. At the present time it is impossible to say just what happens when mercury is discontinued: Case 5 had a count of 48% of lymphocytes, although there had been no mercury for three months.

9. LEUCOCYTES IN HEREDITARY SYPHILIS.—In my series there are but two counts in young children with hereditary lues, so that it is not safe to draw any deductions. There are three cases of late hereditary syphilis and the highest lymphocyte count is 40%, the average being 33%. It is evident that these cases do not regularly show the high lymphocyte count usually associated with hereditary syphilis. When one mentions that syphilis in children causes a lymphocytosis, it should always be remembered that all children show a relatively high percentage of lymphocytes and due allowance be made for this. In my few cases mercury did not cause a rise in the relative lymphocyte count, but the cases are too few from which to form any conclusions on the subject.

I desire to thank Dr. Gilchrist for allowing me to use his ma-

terial and for constant advice. I am indebted to Dr. Van Swearigen for doing many leucocyte counts.

#### CONCLUSIONS.

In a series of 125 syphilitic cases, embracing 175 differential counts, all done by the same person and with the same technique, there were the following results:

1. In normal persons the average total count is about 7,500, the neutrophile count 55% and the lymphocyte count 33%.

2. In the untreated secondary cases there is a slight leucocytosis, an occasional case showing as many as 20,000 white blood cells. The neutrophiles are absolutely and relatively increased. The percentage of eosinophiles is higher at this time than in control cases or in cases of late lues. Treatment causes a slight drop in the total count, with a slight actual and marked relative increase in the lymphocytes.

3. Under treatment a secondary case may show a lymphocytosis as high as 65%, a condition that may persist for many months, or that may tend to approach normal in from three to five months, even though treatment is continued.

4. Cases of tertiary syphilis very rarely show an increase in leucocytes. The differential count in untreated cases is usually not far from normal. Myelocytes are very rarely found, even with moderate anemia. Treatment usually but not invariably causes a rise in both the relative and absolute number of lymphocytes.

5. The cases with a large papular eruption, all in this series occurring in negroes, show a higher percentage of lymphocytes than do the other types of secondary eruption. The average is 42%.

6. In cases of secondary syphilis, negroes show a higher lymphocytosis, 35%, than do whites, 26%. In the late cases there is not so marked a difference.

7. Males show a slightly greater increase in the total count than do females; females show a higher lymphocyte count than do males.

8. Age makes very little difference in the count. The very young tend to have a high neutrophile and a relatively low lymphocyte count.

9. Marked glandular enlargement does not mean a high lymphocytosis, in fact there seems to be very little relationship between glandular involvement and the number of small mononuclears in the circulating blood.

10. Severe cases of secondary syphilis show a higher total count

and a higher actual and relative neutrophile count than do the milder cases.

11. All cases of secondary syphilis that did badly under treatment, showed before treatment was begun, a high neutrophile and a low lymphocyte count; all cases that showed a low neutrophile and high lymphocyte count did well.

12. Cases of late hereditary syphilis do not necessarily show a high lymphocyte count.

13. Eosinophilia in case of a skin eruption, speaks against syphilis.

*(To be continued.)*

## SALVARSAN AND NEOSALVARSAN IN SYPHILIS: A COMPARATIVE STUDY.\*

By HENRY H. WHITEHOUSE, M.D., and A. SCHUYLER CLARK, M.D.,  
NEW YORK.

WHILE considerable literature has been published on the methods of administration and the clinical and serological results of salvarsan and neosalvarsan in syphilis, yet it has been, and is still difficult to determine the relative merits of these two drugs, because of the comparatively short time they have been at our disposal.

It will be many years yet, before it can be determined exactly which is the better method to be followed in the different stages of syphilis, in the use of either of these drugs; this can only be ascertained by repeated reports and comparative studies on the part of various observers as the time goes on.

Inasmuch as some of our salvarsan cases date back over a period of two years and our neosalvarsan cases over a period of one year, sufficient time has elapsed, we think, to enable us to judge in a comparative way, at least, of the relative merits of the two remedies.

The conclusions that we draw are based upon an experience with 104 cases of syphilis treated with the old salvarsan in which 317 injections were given, and 46 cases with neosalvarsan receiving 185 injections.

These cases were taken from both our private and hospital work.

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

the majority of them naturally being examples of cutaneous syphilis, a type particularly suited, it seems to us, for a comparative study of the clinical effects of the two forms of salvarsan.

The technique for the administration of both forms of the drug intravenously has been invariably the same, with the exception of the necessary differences in the preparation of the two agents, that is: using a neutral solution of the old salvarsan in which 50 cc represents one decigram in freshly distilled sterile water, and 20 cc representing one and one-half decigrams of neosalvarsan in the same menstruum.

Having abandoned the intramuscular method of administering salvarsan early in our experience and never having used neosalvarsan in this way, we cannot speak of their relative merits in that connection.

Our data are taken from a series of tables comprising the above cases, which will be published in detail at a later period.

We have invariably used 4 or more injections in the treatment of each case by neosalvarsan and from 1 to 4 or more injections in the treatment of cases by salvarsan.

In certain respects, therefore, we can only use for comparative purposes such of our salvarsan cases as may have received 4 or more injections. This would refer particularly to the serological findings and the permanency of the clinical results, so far as we were able to follow the cases.

As a rule, 5 decigrams of the old salvarsan were given and  $7\frac{1}{2}$  decigrams of the neosalvarsan, except in a few particular instances where there were justifiable reasons for giving a larger or smaller dose.

The interval between the first and second injections was ordinarily from 7 to 10 days, while 2 to 3 weeks were allowed between the second and third and 3 to 4 weeks or more between the third and fourth, in the cases receiving salvarsan. Ehrlich's and Schreiber's original dictum of a 2 to 3 day interval was adopted in a majority of the cases of neosalvarsan, although some, toward the end of the series, received them at weekly intervals.

From our observations, in all the cases of syphilis of the skin and mucous membrane, whether primary, secondary or tertiary, healing is as prompt and sure after neosalvarsan as after salvarsan treatment. If a given lesion refuses to heal under repeated injections of either the neosalvarsan or the old salvarsan, we feel that we can conclude with a great degree of certainty that that lesion is either not luetic or that a malignant degeneration has superimposed.

In two of the cases in our series which have failed to respond, this has been demonstrated, both partially healing with prompt apparent relapse, refusing to heal after further injections, malignancy being subsequently proven both clinically and pathologically; a third, which failed to respond to repeated injections, we are now fully convinced is a case of tuberculosis.

Serologically and curatively, both salvarsan and neosalvarsan are more effective in primary and secondary cases than in tertiary; repeated courses of injections seeming to be frequently necessary or combining with mercurial treatment in tertiary cases to obtain negative Wassermann reactions. Although we have had only one relapse up to the present time in our series of primary and secondary cases, and that occurring 7 months after 4 injections of salvarsan and again 4 months after 2 more injections, we feel justified in using the combined mercurial and salvarsan treatment in the early cases as well as in the tertiary. Until it can be proven that neosalvarsan may not be followed by such a result in these early cases, which we doubt, the combined method should be applied in its administration also.

With the Wassermann and luetin tests as a control, our tables distinctly show permanently negative results up to the present time in nearly 20% more cases proportionately, in all stages treated by salvarsan than by neosalvarsan; this deduction has been drawn from cases not submitted to the combined treatment.

Of the primary and secondary cases treated with the old salvarsan, one remained positive 8 months after 2 injections, but following 2 more, was negative after 2 years. One remained positive 1 month after 2 injections, but following 2 more, was negative after 1½ years. One was negative 14 months after receiving 4 injections, and three were negative after 12 months following 4 injections.

Of the tertiary cases, three were negative after 15 months, four were negative after 12 months and two were negative after 6 months, all having received 4 injections. Two other cases were in fine condition and free one year later, but as they live at a distance, their Wassermann reactions have not been taken.

Of the neosalvarsan cases, primary and secondary, one remains negative 11 months after receiving 4 injections, and ten others are clinically free and with negative Wassermann reactions, one after 3 months, four after 2 months, two after 1 month and three after 2 weeks. Six tertiary cases remain free and have negative Wassermann reactions at periods varying from 1 week to 4 months after receiving 4 injections.

Twenty per cent. of cases treated by salvarsan, according to our findings, showed some kind of a reaction, while reactions followed in only 8% of the neosalvarsan injections. Of these reactions, however, there were twice as many, proportionately, in the neosalvarsan cases which we could distinctly refer to the effect of the injected arsenic, such as toxic and bullous erythema, urticaria, exfoliative dermatitis and severe joint and nerve pains.

It is fair to assume that the more complicated technique in the preparation of the old salvarsan, particularly the difficulty in obtaining an exactly neutral solution and the greater bulk of fluid, even though freshly distilled and boiled water was used, may explain many of these mild, indefinite general reactions, such as slight nausea, diarrhœa, malaise, chilliness and mild temperature. Inasmuch as the so-called arsenical reactions following the neosalvarsan injections occasionally occurred when given at weekly intervals, as well as at 2 to 3 day intervals, it appears as if it would be well to further increase the intervals between the injections, as in the use of the old salvarsan.

These so-called arsenical toxic reactions must demand our consideration in the administration of either of Ehrlich's preparations, for they were quite frequently, in our cases, accompanied by an albuminuria, transient in all, but none the less present. Because of the possibility of serious results following the repeated administration in patients with irritable skins or diseased kidneys, we would, therefore, urge the estimation of the patient's powers of elimination both as to the kidneys and skin before repeated injections of these drugs are advised. When it is necessary to push anti-syphilitic treatment in this class of case, suitable means of increasing elimination both from the skin and kidneys will often save us embarrassment.

In one of our cases, symptoms analogous to anaphylactic phenomena developed during the administration of neosalvarsan. This patient had had originally 4 injections of salvarsan, followed in 7 months by 2 more because of a relapse, and 5 months later, owing to a second relapse, 2 neosalvarsan injections were given. It was during the administration of the second of these last neosalvarsan injections, given at the interval of one week, that the patient, without pain or other symptoms, suddenly became very pale, felt as if he would faint, his eyes rolled up and his pulse became very weak and dropped to 40. The injection was immediately stopped and within a few minutes the patient had regained his color and felt quite well, although he was kept in a recumbent position for half an hour, because of the persistence of his low pulse rate. In none of the other 7 injections had he had the least discomfort.

In none of the veins used in the administration of neosalvarsan was there any evidence of inflammation or occlusion, while infrequently this occurred after the injection of salvarsan. It is fair to presume that this also may be due to the difficulty in obtaining always an absolutely neutral or comparatively unirritating solution. This difficulty having been eliminated in the preparation of the neosalvarsan, would seem to add greatly to its advantages.

Following the same line of reasoning this would also satisfactorily explain the fact that there is less local inflammatory reaction, as a rule, following slight leakage of neosalvarsan in the tissues, than is the case with salvarsan.

In none of our cases treated by either the old or new salvarsan were there any subsequent auditory nerve symptoms.

While we cannot speak of relapses in a comparative way, in the two groups of cases, on account of the relatively shorter period of time that has elapsed in the neosalvarsan series, it may be of interest to state our experience in this connection.

In addition to the relapsing primary and secondary case previously mentioned, following 4 injections of salvarsan, and the two cancer cases developing after 6 injections respectively of the old and new salvarsan, there were 4 other relapses, all in tertiary cases and following 4 injections each. Three of these were salvarsan cases and one, neosalvarsan. The neosalvarsan case was a neuro-recurrence, the patient dying of cerebral embolism 2 months after the fourth injection; two of the salvarsan cases were also neuro-recurrences; the third, a late nodular syphilide, relapsing after 7 months, but with the Wassermann reaction negative.

There were, also, a few interesting results in some cases that could not be included in our comparative study, which we would like to briefly mention before summarizing our conclusions.

A man with inveterate syphilis for 30 years, having ulcerating nodes on the head and lower legs, with necrosis of the outer table of the skull and shaft of the tibia, thickened, deeply fissured tongue, weak and emaciated, albuminuria, confined to his room for a year, treated with mercury and iodide for years, recovered after 5 salvarsan injections and was back to business 2 months after the course, but with a positive Wassermann reaction.

Three cases of leukoplakia of the tongue with thick, fissured lesions, occurring in men and of 24, 11 and 10 years' duration respectively. The first recovered, except for the leukoplakia, after 4 salvarsan injections and remains well one year later, but with a positive Wassermann reaction 6 months after the course; the second recovered, except for the leukoplakia, after 4 salvarsan injections and remains well 2 years later, but with a positive Wassermann reaction 9 months after the course; the third recovered, except for the leukoplakia, after 3 salvarsan injections and remains well 2 years later, with a negative Wassermann reaction 1½ years after the course.

A man with late throat lesions and ulcerating serpiginous skin lesions relapsed in 1 month after an intramuscular salvarsan injection, relapsed again 6 months after an intravenous, and remains well 14 months after a second intravenous injection with a negative Wassermann reaction.

A man with brain syphilis and optic neuritis greatly improved after 3 salvarsan injections with a negative Wassermann reaction after 2 years.

Two male cases of paresis, one steadily progressing 5 months after a second series of 4 neosalvarsan injections, the other not particularly changed, 16 months after 4 injections of salvarsan.

#### CONCLUSIONS.

- (1) Healing is as prompt and sure after neosalvarsan as after salvarsan, whether the disease is primary, secondary or tertiary.
- (2) If a given lesion fails to heal under repeated injections of either, it is in all probability not syphilitic.
- (3) Serologically and curatively, both are more effective in primary and secondary cases than in tertiary.
- (4) The combined method with mercury should be used with both, in all stages of syphilis.
- (5) Nearly 20% more permanently negative results were obtained in all stages by salvarsan than by neosalvarsan.
- (6) Five doses of neosalvarsan would seem to be required against 4 of salvarsan to attain the same end results.
- (7) Twenty per cent. of cases under salvarsan show reactions of some kind against 8% under neosalvarsan, though twice as many of the latter are of the severe toxic type, as compared with those of the former.
- (8) There is less thrombosis and less inflammation in the tissues following leakage, from neosalvarsan than from salvarsan.
- (9) Apparently, one injection of either the old or new is insufficient, being effective only in cases preceded or followed by mercury. The efficiency in both, increases with the frequency of repetition of the dose.



THE EXPERIENCE OF THE MEDICAL PROFESSION OF  
TORONTO IN THE TREATMENT OF SYPHILIS  
WITH SALVARSAN.\*

By D. KING-SMITH, M.D., Toronto, Canada.

**A**T the request of the chairman of the Toronto Academy of Medicine, I undertook to ascertain the experience of the medical profession of Toronto in the treatment of syphilis with salvarsan and neosalvarsan.

A circular with the following questions was sent to every physician and surgeon in Toronto:

1. Number of cases treated?
2. Immediate results?
3. Recurrence of lesions?
4. Remarks.

No doubt many exceptions could be taken to this circular on the grounds that the information asked is too indefinite, yet I think you all will agree with me how difficult it is to get a reply to any request demanding much detail.

Six hundred and twenty-four circulars were sent out; reports were received from 91, of which 37 had used salvarsan or neosalvarsan. The number of cases treated was 821.

Thirty-six preferred the intravenous method of administration; only one gave intramuscular injections extensively. In 145 cases recurrence of lesions was noted. All reported that the most rapid results were obtained in the primary and early secondary lesions.

Two deaths were reported:

CASE A. Mr. J. D.; age, 54; Wassermann reaction, positive. From a microscopic examination of the blood a diagnosis of pernicious anæmia was made. But this has been questioned. Examination of the urine did not indicate any disease of the kidneys. On account of his anæmia he was given only 0.3 gm. of salvarsan intravenously. Very soon the patient was seized with pain in the back, followed by chills and coma, death taking place thirty hours after the administration.

CASE B. Mr. E. S.; age, 60. A severe case of early secondary disease, not responding to intramuscular injections of mercury nor to inunctions. On account of his age and general condition, only 0.2 gm. of salvarsan was given intravenously. Almost immediately he was seized with rigors and convulsions, followed by coma and death in eight hours. The urinalysis in this case was nil.

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

During the administration of 0.6 gm. of salvarsan one patient suffered extremely from pain in and around the teeth. The pain became so intense that it was necessary to keep him under the influence of morphine for several hours.

In another case the patient developed a few hours after the administration of salvarsan a rash so closely resembling measles that it was thought wise to isolate him. He did not have any of the constitutional symptoms of the disease. He felt perfectly well and as he had not been exposed to measles the rash was attributed to the salvarsan.

In one case, four months after an intravenous injection, two sinuses developed in the region of the injection, one above and one below the crease of the left elbow. These were connected by a track which would admit a small probe; the surrounding area was much indurated. The track was freely opened and pieces of vein up to an inch in length were found to be quite necrotic. All aseptic precautions had been taken before the injection.

In another case a lesion developed at the seat of injury which had all the clinical characters of a chancre. It persisted for seven weeks after the disappearance of the syphilitic lesions.

Some interesting and instructive work has been done by Dr. George S. Strathy, at the Sick Children's Hospital, on congenital syphilis. The summary of his observations is:

(A) A negative history in the mother is of little value. In 30 mothers of syphilitic children, 25 gave positive Wassermann reactions and only 5 of these gave a history which would lead one to suspect syphilis.

(B) Even in the smallest babies blood may usually be easily obtained for a Wassermann test by puncturing the jugular vein, if the median basilic or median cephalic cannot be located. Over 90% of all congenital syphilitics give a positive Wassermann reaction.

(C) In babies at the breast very indifferent results are obtained by treating through the mother's milk. With a little practice salvarsan or neosalvarsan is fairly easily injected into the jugular vein, using a syringe instead of the ordinary funnel method. The symptoms and lesions disappear in babies more rapidly under salvarsan and neosalvarsan than with mercury. Small doses should be used at first and repeated twice a week until the Wassermann reaction is negative.

(D) In late congenital syphilis, those cases showing interstitial keratitis, bone lesions, etc., it is much harder to obtain a negative reaction. In one case a negative reaction was obtained after eight doses, one after six doses, while others have remained positive even after nine doses. It is rare to get a negative reaction after one or two doses.

Symptoms disappeared rapidly in a large percentage of the cases. In one case, even after nine doses, the symptoms reappeared.

## TREATMENT OF SYPHILIS WITH SALVARSAN 641

While three cases were being treated for bone lesions, after the third dose, they developed interstitial keratitis.

Many improved rapidly under salvarsan who were not responding satisfactorily to mercury.

(E) Salvarsan in children is to be preferred to neosalvarsan. Salvarsan is to be continued until the Wassermann reaction is negative. The blood should not be taken until 36 to 72 hours after the administration of salvarsan.

At first the dose for children was reckoned in proportion to their weight, taking as a standard an adult weighing 150 pounds should have 0.6 gm. It has been found by experience that children can stand a larger dose in proportion than the adult.

Many cases of nervous disease have shown great improvement by repeated doses of salvarsan and no doubt the results in the future will be much more encouraging in these cases than when treated by one injection.

Treatment should be continued by repeated injections of salvarsan until the Wassermann reaction becomes negative and the blood should be tested in six months and then again in a year and found negative, before giving an opinion that the patient is cured.

Where symptoms persist and the Wassermann reaction is negative, as sometimes happens, the reaction should be disregarded.

The consensus of opinion was, that salvarsan is a most valuable drug in syphilis, that repeated doses should be given and that mercury should not be discarded, but that in the majority of cases it is indicated along with salvarsan.

### DISCUSSION.

DR. FORDYCE said that during the past year he had had given, either personally or under his immediate direction, about 3,000 doses of neosalvarsan and felt, therefore, that he could speak with a certain amount of authority regarding its value compared with salvarsan. His conclusions were much the same as those stated by Dr. Whitehouse in his very conservative paper. When neosalvarsan was first introduced, the speaker said he had followed Schreiber's directions and had given from 1.2 to 1.5 gm. every second or third day up to four or six doses. Several of these were private patients whom he had been able to keep under observation ever since. Two had primary manifestations with secondary lesions on the skin and mucous membranes. In both of those cases the Wassermann became negative and had continued so. He had found, however, that the neosalvarsan given in these large doses and repeated at such short intervals, produced in some instances symptoms of irritation of the peripheral nerves, which came on within the first few weeks after the administration of the drug. He had, therefore, decreased the dose to 0.75 gm. given at weekly intervals and usually administered about six doses in this manner. He com-

bined this treatment with intramuscular injections of mercury, alternating them with salvarsan injections and continuing the mercury for eight or ten weeks after each course of injections of neosalvarsan. He found that the active manifestations of the disease were readily controlled by the larger doses of neosalvarsan. It required, however, a longer time to heal the active lesions of the disease with the smaller doses than with an equivalent dose of salvarsan. Salvarsan seemed to him more efficient if given in doses of 0.5 gm. and repeated at intervals of from seven to ten days. In addition to the parästhesias following the use of neosalvarsan, it was more apt to produce skin eruptions. In one case after the use of two doses of neosalvarsan, the patient developed a very marked exfoliative dermatitis which persisted for several weeks and was accompanied with irritation of the bronchial tubes, and much general depression. His inclination now was to rely on the old salvarsan, where he desired to obtain rapid clinical and serological results.

The speaker said that in his large number of cases of syphilis treated with neosalvarsan he had seen no symptoms that gave him any special alarm and his conclusions regarding the effect of the drug on the vein corresponded to those obtained by Dr. Whitehouse; the same vein could be used over and over again, whereas this was not possible with salvarsan. He had, furthermore, lost all fear that the drug had any predilection for the optic nerve. In fact, he had treated a number of cases of optic neuritis of syphilitic origin with salvarsan with beneficial effects. In one case, a patient of Dr. John E. Weeks, with advanced optic atrophy, ten injections had been given. A marked improvement in her vision resulted, with enlargement of the visual fields. Dr. Fordyce had seen no case of auditory neuritis following salvarsan. He had, however, seen several cases of involvement of the auditory apparatus in secondary syphilis where no salvarsan had been given.

In regard to the criticisms that were frequently made as to the unreliability of the Wassermann test, Dr. Fordyce said this depended largely on the technique followed in the laboratory. The fault, in his opinion, was not in the Wassermann test, but in the manner in which the Wassermann test was made. By using antigens reinforced with cholesterin, he had found that negative Wassermann reactions were becoming fewer and fewer in late syphilis. The test, in his opinion, should be controlled by clinical observations and if the results did not correspond, a serious attempt should be made to ascertain the reason why. There was no laboratory test that required more careful technique than this one.

DR. RAVOGLI, speaking from a clinical standpoint, said he had obtained the same results from a single injection of salvarsan that he obtains from two or three injections of neosalvarsan. He had seen a universal papular syphilide disappear within 36 hours after one injection of the older preparation, while with neosalvarsan this would necessitate at least two injections and the disappearance of the eruption was considerably slower. The speaker had seen fewer toxic symptoms after salvarsan than after neosalvarsan.

With reference to the auditory nerve, Dr. Ravogli said he could recall only two cases of deafness occurring in the course of active syphilis and in both of those he was convinced that it was due to the disease and not to the salvarsan that had been used. In one case, the patient was a woman with severe and neglected syphilis, and with lesions involving the mucous membrane of the palate and Eustachian tubes, and in that instance the deafness came on before the use of salvarsan. In another case, one of tertiary ulcerations of the tongue and palate, which were so severe that the patient was unable to open his mouth, there was an aural complication which he felt positive was due to an extension of the syphilitic process to the Eustachian tubes and not due to the salvarsan.

DR. RUGGLES reported the case of a girl 22 years old, with a scaly syphilide

## TREATMENT OF SYPHILIS WITH SALVARSAN 643

and nearly complete loss of vision in both eyes following iritis and optic neuritis. She could not read the largest test-type letters.

Immediately after the first injection of salvarsan, she developed a hæmorrhage of the retina in her left eye. Her right eye had only had 20 per cent. of normal vision. The oculist gave no hope of her ever being able to use the left eye again.

The condition gradually improved, however, and soon after the fourth salvarsan treatment her vision became absolutely normal, so that she was able to read fine print.

Dr. HOWARD FOX concluded as the result of his experience with neosalvarsan, that its symptomatic action was slightly less effective than salvarsan when used in corresponding doses. Its serologic action was considerably less than salvarsan when used in corresponding amounts. On the other hand, neosalvarsan was much less disturbing to the veins than the older preparation.

Dr. TRIMBLE said that had his opinion upon the comparative value of salvarsan and neosalvarsan been asked three months ago, he would have coincided with the views of Dr. Whitehouse, but since then, after more careful observation, he had failed to see much difference between the effects of the two remedies. Furthermore, the neosalvarsan was so far superior to the older preparation as regarded the technique in using it and its lack of irritating effects, that he would personally very much dislike to see it discarded. Neosalvarsan could be used with a much less quantity of water, no caustic potash was necessary in the mixing and altogether it was a far more agreeable and convenient remedy. Dr. Trimble also said he had not worked out any comparative results systematically by the Wassermann test, although the treatment of every case of lues was controlled by this procedure. The Wassermann reaction was so varied in its results that it did not seem wise as yet to put too much dependence on it. He thought Dr. Whitehouse's paper was a very valuable one and that further work along these lines was much to be desired.

Dr. CORLETT said he had listened with interest to Dr. Whitehouse's paper, and had especially appreciated the conservative conclusions that had been drawn. The reader of the paper had referred to the eliminative powers of the patient and this was a point the importance of which Dr. Corlett wished to emphasize, as it recalled to his mind the case of a man with an old syphilide who was given the usual dose of 0.6 gm. of neosalvarsan and the following week he received almost 0.9 gm. intravenously. The first dose produced no apparent effects, but after the second injection he vomited and had a marked reaction. The house physician did not heed the night nurse's notes and he was allowed to leave the hospital on the following morning somewhat nauseated and with a temperature of 101°F. The patient returned three days later with the typical symptoms of arsenic poisoning, with subsequent paralysis of the bladder, rectum and lower extremities, and it was not until the end of four months that he began to regain the use of his limbs.

In this case, Dr. Corlett said, the patient's elimination was doubtless defective and if this had been ascertained beforehand, the arsenical poisoning and subsequent symptoms might have been prevented.

Dr. SCHAMBERG thought it was generally admitted that the intravenous injection of salvarsan or neosalvarsan was the method of choice, but there was another means of administering the drug that he had found of service in certain cases, namely, by intragluteal injection. This was not employed as a substitute for, but as a supplement to the intravenous administration. The drug, in large part, was eliminated with relative rapidity after infusion into the blood stream. The intramuscular injections exerted a longer continued effect. Dr. Schamberg gave salvarsan or neosalvarsan, the former in doses of 0.1 gm., the latter in doses of 0.15 gm., suspended in 1 to 1½ cc. of sterilized petroleum oil, with one half minim of beechwood creosote. These were put up in ampoules and

were injected once or twice a week much in the same manner as gray oil. The neosalvarsan injections were almost painless. Six injections constituted a course, given supplementary to intravenous injections in early syphilis and alone or alternating with gray oil in late syphilis.

The speaker also referred to the comparative value of the Noguchi and Wassermann tests and said that in his work he insisted on both tests being made. He regarded a negative Noguchi as distinctly more conclusive than a negative Wassermann, and his experience had taught him that a positive Noguchi, even though the reaction were weak, was an indication for further treatment, despite the existence of a negative Wassermann.

Dr. POLLITZER said that since an experience of 150 doses of the neosalvarsan a year ago, he had not used it, and he got the impression in conversation with Ehrlich himself that the latter regarded it as less valuable than the older preparation.

As to the irritative effect of salvarsan on the vein, the speaker thought that was probably due in most cases to some error in the technique, possibly a too high alkalinity. He had never seen any injurious effect by the drug on the optic nerve; in fact, he had treated a number of cases of specific optic neuritis and atrophy with salvarsan. In one case of tabes, with beginning optic atrophy, the vision had remained absolutely stationary for the past eighteen months—a thing which was unknown before the use of salvarsan.

The speaker said he had seen a few cases of temporary deafness occurring in the course of treatment, but the cases of permanent deafness we heard about seemed more probably due to neglect of the syphilis than to the effect of salvarsan; these were probably cases with a lesion in the bony canal that was allowed to go on till the nerve was permanently injured. The speaker said he did not put his patients to bed after the use of salvarsan, but treated them all as ambulatory cases. The patient was given an injection and allowed to go home and he had never seen any ill-effects from this method.

Dr. Pollitzer said that while he agreed in general with the statement made by Dr. Whitehouse, that if a lesion failed to yield to salvarsan or neosalvarsan, it was not syphilitic, he had met with one exception to this rule. This was in the case of a woman with a chancre on the chin whom he had seen in consultation five years ago; she was treated by the usual method in vogue at that time and the lesions, including the secondary eruption, etc., promptly responded. About a year ago, she returned with a gumous lesion on the chin, on the site of the original chancre. She was given three large doses of salvarsan, followed by injections of salicylate of mercury. Instead of improving, the lesion grew larger until it attained the size of a walnut. It was then suspected of being malignant and surgical measures were thought of. About that time it began to soften, finally opening and discharging gummy material. It was undoubtedly a gumma (and so was found to be on microscopical examination), but had failed to respond to salvarsan or mercury. For cosmetic reasons the lesion was finally excised, producing a linear scar.

Dr. GILCHRIST said that from personal observation he could assert that many cases of syphilis treated by the old mercurial methods in years past were cured, as evidenced by negative Wassermann and luetin tests. The old relapsing cases that came for salvarsan treatment were frequently the ones that had either been inefficiently treated with mercury or did not stand mercurial treatment very well. On the other hand, he did not wish to decry the use of salvarsan, which was a marvelous remedy when used in the early stages of syphilis before antibodies were formed and also in those cases that failed to yield to mercury. Experience seemed to show that salvarsan yielded the best results in syphilitics who had had a course of mercurial treatment and also in those who showed lesions and yet had a negative Wassermann.

The speaker said that at one of his recent clinics he showed five cases of

## TREATMENT OF SYPHILIS WITH SALVARSAN 645

cutaneous syphilis, some nodular in type, others gummous and varying in severity and for the purpose of demonstrating the efficacy of the mercurial treatment before the class, each case was given an injection of the salicylate of mercury every third day and after three injections the lesions entirely disappeared in three of the cases while the other two improved remarkably. While in salvarsan we had a remarkable remedy for the treatment of syphilis, we should not lose sight of the fact that it had not completely replaced mercury, but must be used in conjunction with it.

DR. STELWAGON said that with no intention of minimizing the value of salvarsan, he coincided fully with the statements made by Dr. Gilchrist. He could recall many cases of syphilis, treated by the older methods, which were shown to be practically cured by close observation extending over a period of many years.

DR. BRAYTON thought that much unnecessary detail had been insisted upon in connection with the technique of the injection of salvarsan. In his own work he had early abandoned the intramuscular method, limiting himself exclusively to the intravenous. As regards the choice of remedy, he wished to recommend the concentrated solution of neosalvarsan and in giving the treatment, he emphasized the importance of properly instructing out-of-town physicians in the method, so that when they returned home they would be able to make the injections themselves. No assistants were necessary and no apparatus, except an ordinary 10 cc. syringe.

In regard to the value of the mercurial treatment of syphilis and whether or not patients treated by that method were wholly cured, that, he thought, depended entirely upon the efficiency of the treatment and the length of time that it was carried out.

The speaker stated that in his clinic and under his observation over 300 injections of the full dose of neosalvarsan in 10 cc. of freshly distilled water had been given, using the Burroughs-Welcome syringe. In the City Hospital of Indianapolis his son, Dr. Frank A. Brayton, had given in this manner four full doses in twenty minutes.

DR. HARTZELL said he was still of the opinion that syphilis could be cured with mercury. While not for a moment decrying the value of salvarsan or neosalvarsan, to say that we could not cure a case of syphilis without these newer remedies was, in his opinion unjustifiable. Even the strongest advocates of these new remedies now admitted that they should be followed by mercury to insure a cure.

DR. WHITEHOUSE said the statement made by Dr. Smith, in his paper, namely, that children bore good-sized doses of salvarsan comparatively well, had interested him very much, as he had felt rather timid in treating children with this remedy. The speaker said he agreed with Dr. Fordyce that in the future we would probably have fewer negative Wassermann reactions with positive skin lesions on account of the improvement in the tests. Dr. Whitehouse said that on comparing his results from salvarsan and neosalvarsan, he was surprised to find that the older preparation was so much more effective than the newer one. He agreed with Dr. Corlett that the eliminative powers of these patients should not be overlooked and he thought that toxic rashes and other irritative manifestations might be avoided by stimulating the elimination of the kidneys and skin. The speaker said he felt quite confident that if a lesion failed to yield to either salvarsan or neosalvarsan it was not syphilitic in character.

## CLINICAL REPORTS.

## LUPUS ERYTHEMATOSUS IN A CHILD.

By J. W. MILLER, M.D., Cincinnati.

THE extreme rarity with which one meets with lupus erythematosus in children prompts me to make the following report:

H. G., a well-nourished, bright boy, aged four years and seven months. He has escaped thus far the usual diseases of childhood with the exception of a mild attack of whooping cough. There is a slight glandular enlargement in the post cervical region. He is normal as to height and weight and seems imbued with high spirits such as is usually characteristic in a child of this age.

The parents, both living, have always enjoyed good health. They have three children living, who are likewise in good health. Three children are dead, one dying from whooping cough, another from measles and a seven-months-old child from summer complaint.

The lesions on the face were first noticed seven months ago when the child was exactly four years of age. A faint blush was seen on both cheeks and the mother thought the child was suffering from sunburn. These spots slowly increased in size, extending inward and over the bridge of the nose, gradually assuming the well-known, bat-wing appearance. In the seven months that have elapsed other lesions have appeared over both cheeks, varying in size from a ten-cent piece to that of a silver dollar. Of recent development, small lesions are seen in the cavum conchæ of the ear. The patches are typical of lupus erythematosus. They are for the most part pinkish-red in color and covered with a very thin, adherent scale. Other lesions show the patches well defined and slightly elevated above the level of the skin. Still others are covered by crusts. The centres of the patches do not show plainly the whitish cicatricial appearance so often seen in the adult, incomplete resorption being accounted for by the comparatively recent onset of the disease. The glandular sebaceous orifices are not patulous. The Moro cutaneous tuberculin test was positive, there being a moderately strong reaction.

A hasty review of the literature showed that Kaposi reported the youngest child, aged three, suffering from the disease. Sehamborg's case was four years and three months old when the disease began. Crocker says it is never seen in infants. His youngest patient was six years old. Sequeira has seen eight patients suffering from lupus erythematosus under fifteen years of age.

Livingston Building.





PLATE XX.—To Illustrate Clinical Report on Lupus Erythematosus, by Dr.  
J. W. MILLER, and A Case for Diagnosis, by Dr. G. P. LINGENFELTER.



Fig. 1.

Lupus Erythematosus.



Fig. 2.

Lupus Erythematosus.

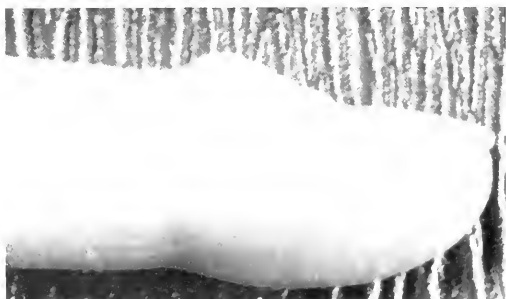


Fig. 3.

Case for Diagnosis.



Fig. 4.

Case for Diagnosis.

## A CASE FOR DIAGNOSIS.

By G. P. LINGENFELTER, M.D., Denver.

Dermatologist to St. Anthony's Hospital; Mercy Hospital, and City and County Hospital; Instructor in Dermatology, Medical Department, University of Colorado.

Mrs. W., widow; aged 51; residence, Denver; born in New Orleans; occupation, house-work.

FAMILY HISTORY.—Father, mother, one brother and one sister died of unknown causes. One brother and one sister are living and well.

PAST HISTORY.—The patient has always been well; no children and no miscarriages or abortions; no trauma.

PRESENT CONDITION.—The lesion began fourteen months ago, as a warty-looking elevation on the dorsal aspect of the third phalangeal articulation of the second digit of the right hand. At this time the lesion was about the size of a small split pea and circular in outline. It soon became somewhat swollen and inflamed, and began to exude at intervals a perfectly clear, glairy, colorless fluid of the consistence of vaseline. Pain of a sharp, stabbing character, radiating in all directions, was present at rather frequent intervals succeeded by a throbbing ache. This was relieved by opening the lesion and expressing the contents. About four or five days later this syndrome would be repeated and thus the cycles continued.

The lesion had been treated by several physicians who employed excision, curettage and cauterization with nitric and carbolic acids. Following their various treatments the wound healed and was apparently cured, but only to recur some four weeks later, with the former phenomena, pain, exudation, etc.

At this time the case came under the care of Dr. L. H. Schultz, who kindly referred the patient to me.

When the case first came under my observation, I found a pea-sized, conical-shaped, crust-capped elevation. The skin over the sides of the tumor and for a distance of three to five millimetres surrounding it, was much thickened, hard and dry and gradually shaded off into normal skin. At this time there was nothing to suggest verrucæ from its external appearance.

I suspected some involvement of the bone and accordingly radiographed the finger. The radiogram presented nothing abnormal and I therefore abandoned the theory of a bone lesion. On removing the crust with which the summit of the growth was crowned, a drop of fluid, quite colorless, clear and glairy, the size of the head of an ordinary brass pin, was found. When this was evacuated there was exposed to view a circular cavity about two millimetres in diameter and depth, with precipitous walls and a convex floor, which had the appearance of an enormous granulation. When

this was pricked with a needle it was found to be exceedingly sensitive and bled freely, the blood presenting a normal picture with the exception of about  $2\frac{1}{2}\%$  eosinophilia. The cavity was surrounded by a bright-red areola one millimetre in width and was sharply demarcated; beyond this areola the skin was normal in color but quite dry and hard. No opening communicating with the articulation, or that could in any way be construed as a sinus, was found. Cultures of the fluid were made on several media and proved negative. Smears treated with various stains likewise gave negative results. A biopsy was very positively refused.

The treatment consisted first of refrigeration with a very solid pointed crayon of CO<sub>2</sub> snow, boring well into the cavity. This seemed to promise excellent results, but in about four weeks the lesion had resumed its former appearance and activity. Fulguration with the high-frequency spark was then given a trial, but no results being obtained this plan was abandoned and the cavity opened and packed every three days with resorcin and salicylic acid crystals. This medication was continued for a fortnight. Beyond a slight flattening of the elevation no improvement could be determined.

Following this treatment, two X-ray exposures of five and eight milliamperes minutes respectively, at fifteen centimetres distance, were made eleven days apart. Under this treatment the lesion flattened out, the skin became normal in all appearances and, up to the present time, six and a half months later, there has been no recurrence.

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## DERMATOLOGICAL THERAPEUTICS.

By

CHARLES WOOD McMURTRY, M.D., NEW YORK,

Instructor in Dermatology, Columbia University.

### ICHTHYOL.

**A**S a remedy, ichthyol is noteworthy for the unusually large number of pathological conditions in which it can be used with more or less advantage, either alone or in combination with other drugs. For many years, ichthyol was the subject of an enormous number of articles in which the remedy was praised in an almost extravagant manner, and for its action in almost every disease known to medicine and surgery remarkable results were claimed. A reaction of feeling, due to disappointment in the actual clinical benefits from the drug then occurred and many capable practitioners abandoned its use altogether. Two very well-known dermatologists have told me that they long ago ceased to prescribe ichthyol because it appeared to them to be absolutely

valueless and devoid of action in their specialty at least. Other specialists have expressed somewhat similar opinions. In my own dispensary and private practice, I have often been disappointed in the action or rather lack of action of ichthyol in those diseases for which it has been enthusiastically recommended by well-known authorities.

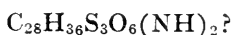
Briefly, the general opinion of our profession regarding ichthyol is to-day divided. It is probable, however, as in most cases where extravagant praise is followed by equally energetic condemnation, that the truth concerning this therapeutic agent will be found between the two extremes and that ichthyol will finally be considered as a remedy which, while quite devoid of "wonderful" properties, is capable of useful therapeutic effect in a certain number of diseases and of really excellent healing properties in at least two or three conditions.

Before passing to a study of the drug, two facts should be borne in mind concerning its use. A certain number of individuals are apparently entirely unaffected by it, while in others it acts brilliantly. The latter class usually consists of people whose skin and mucous membranes react violently to comparatively insignificant local irritations and who are prone to capillary dilatation. The second point to remember is that the action of ichthyol, even when used in its pure state, is essentially a mild one; hence it should in many cases be applied in combination with one or two other drugs of similar but more intense therapeutic effect. In other words, where ichthyol is disappointing as the chief ingredient of a prescription, it may prove of great value as an adjuvant.

Ichthyol is a fluid of syrup-like consistence, brown to brown-black in color and with a peculiar, pungent odor like that of crude petroleum. When painted on the skin, ichthyol thickens quickly and dries into a firm, flexible coating which, in addition to its therapeutic properties, forms an efficient mechanical protective.

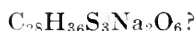
#### CHEMISTRY.

Ichthyol is made from the distillation products of a peculiar bituminous stone which is found near Seefeld, in the Austrian Tyrol. This stone, which the natives call "Stinkstein," consists of the remains of fossilized fish. As a result of the distillation, a thick brown-black oil, insoluble in water, is obtained. This oil is treated with concentrated sulphuric acid and boiled at 100° C. It is then, according to Baumann and Schotten (*Ueber das Ichthyol. Monatsh. f. prakt. Dermat.*, ii, 1883, p. 257) neutralized with ammonium carbonate and washed with water. This forms the staple product, but sodium carbonate is also used to neutralize the mass and in this case the resulting mass is called sulpho-ichthyolate of sodium, to distinguish it from ichthyol, which is also designated as suphoichthyolate of ammonium, with an *empirical* formula of



This formula should always be followed by a question mark as the exact composition is unknown. The writers quoted above consider ichthyol as apparently the salt of a bibasic acid.

ICHTHYOLATE OF SODIUM. Witthaus (Manual of Chemistry, p. 299) gives the empirical formula of ichthyolate of sodium as



This is a more solid substance than ichthyol and is preferable when the drug is employed in pill form. It is a dark-brown or brown-black substance of almost tar-like consistence and of a less pungent odor than ichthyol.

Several other combinations of the crude ichthyol oil are manufactured. These are not salts in the strict chemical sense, although sometimes referred to as such, but each is merely a preparation resulting from the substitution of another base for ammonium in the process of neutralization. Thus a list of the ichthyol products would include:

Ichthyol-ammonium-ichthyol or sulphoichthyolate of ammonium.

Ichthyol-sodium-sulphoichthyolate of sodium.

Ichthyol-zinc-sulphoichthyolate of zinc.

Ichthyol-piperazin or ichthyolidin.

Ichthyol-silver or ichthargan.

Ichthyol-paraffin or ichthyolan.

Ichthyol-formaldehyde or ichthoform.

Ichthyol-potassium or sulphoichthyolate of potassium.

The United States Dispensatory (19th ed., p. 1423) states that a sulphoichthyolate of mercury has been made. These combinations are also referred to as ichthyolsulphonates, while the crude mineral oil, after its treatment with concentrated sulphuric acid, is sometimes called ichthyol sulphonic acid (Lorenz, *Deutsch. med. Wochenschr.*, 1885, No. 36) and ichthyolsulphuric acid (Hare, *Therapeutics*, 13th ed., p. 289).

Lorenz (*loc. cit.*) found ichthyol to have a specific gravity of 0.865 and its analysis showed:

Carbon .....	77.25
Hydrogen .....	10.52
Sulphur .....	10.72
Nitrogen .....	1.10

Dufrecht (*Allg. met. Centr.-Zeitg.*, 1892, p. 69) analyzed the dried residue and found (less the ammonium sulphate):

Sulphur, total .....	19.59
Sulphonic (acid?) .....	5.60
Sulphidic " .....	13.99
Ammonium .....	2.98
Ethereal extract .....	31.08
Substances insoluble in alcohol .....	44.15

But other writers (Hare, Therapeutics, 13th ed., p. 289, and Wood, Therapeutics, 14th ed., p. 395) give the sulphur content as about 10%. This is a very important constituent as upon it, according to Wood, depends largely the therapeutic activity of the drug. The sulphur is said by Baumann and Schotten (*loc. cit.*) to be present in a condition similar to that in organic sulphides and mercaptans and partly in some oxidized form. Thus the sulphur is present in a soluble and assimilable state.

**ACTIVE PRINCIPLES.** Unna (*Monatsh. f. prakt. Dermat.*, 1897, xxv, p. 533) states that three different bodies, each with definite physical and chemical properties, may be isolated from ichthyol by appropriate solvents and together constitute a mass of all the properties of the drug. Yet ichthyol is not simply a mixture of these three constituents because two of them are entirely insoluble in water while ichthyol is quite soluble. The first and most important constituent, *ichthyol-sulphonic acid*, possesses the power of rendering the second constituent, *ichthyol-sulphon* soluble in water. This sulphon in turn is able to render the third constituent (which Unna does not name) soluble in ichthyol sulphonic acid and, through the action of the latter, also soluble in water. Thus all three constituents are intimately combined and render each other soluble in water.

Ichthyol forms a definite chemical combination with the albumin of the tissues, due to its content of ichthyolsulphonic acid. This fact led Lack to produce his combination of ichthyol and albumin which is known as ichthalbin.

**SOLUBILITY.** Ichthyol is entirely soluble in water and also in a mixture of equal parts of alcohol and ether, giving in both a clear solution. The watery solution has (Ichthyolpreparate, *Monatsh. f. prakt. Dermat.*, 1885, v.) a slightly acid reaction. Ichthyol is only slightly soluble in pure alcohol and pure ether, while benzine dissolves a very small amount.

Sulphoichthyolate of sodium is dissolved by water into a slightly cloudy, dark-brown, almost neutral solution. A mixture of equal parts of alcohol and ether gives a clear solution as does also benzol. But benzine dissolves only an infinitesimal quantity.

Ichthyol and ichthyolate of sodium mix freely and in any proportion in glycerin, oils and fats.

**INCOMPATIBILITIES.** According to the manual on ichthyol issued by Merck, ichthyol is incompatible with:

Acids and their solutions.

Alkalies and their carbonates, hydroxides and iodides. Alkaline solutions.

Alkaloidal salts.

Mercuric chloride.

Hydrastis and its preparations.

Resorcin.

But in the list of prescriptions with ichthyol, which the Merck Company recommend, one can find many examples of the use of one or more of the incompatibles given above, particularly resorcin. The latter has frequently been used in combination with ichthyol and by eminent dermatologists.

Ruddiman (Incompatibilities, p. 84) states that:

1. *Acids* combine with the ammonia and precipitate ichthyosulphuric acid as a dark, resinous mass, unless the acid be well diluted.
2. *Alkaline carbonates* or hydroxides liberate ammonia.
3. *Ferric Salts* in solution with ichthyol form compounds of iron and ichthyol and partially oxidize the latter.
4. *Ferrous Salts* precipitate the sulphoichthyolate of iron.
5. *Metallic Salts* in solution often give precipitates.
6. *Mercuric chloride* does not precipitate at once but does so on standing and is reduced to calomel.
7. The following drugs give precipitates when combined with ichthyol:

Alum.

Ammonium bromide.

Ammonium chloride gives a stiff mass.

Magnesium sulphate.

Potassium bromide.

Sodium chloride.

Zinc sulphate.

Alkaloidal salts.

8. *Solid Iodine* gives a black mixture. Tincture of iodine gives no precipitate with a dilute solution but makes it much darker.

9. *Carbolic Acid* causes ichthyol to become thinner.

10. Ichthyol has the property of making some insoluble substances soluble in water as:

Eucalyptol.

Creosote.

Camphor.

Guaiacol.

Oil of peppermint.

Oil of wintergreen.

Oil of turpentine.

Unna (Ichthyol u. Resorcin, Hamburg, 1886, p. 12) states that the addition of zinc oxide or other basic remedy to ichthyol produces a black color.

During the *internal* administration of ichthyol, the constituents of external applications should be chosen with care or discoloration of the skin may result through the excretion of what is probably sulphur by the skin. Crocker (Diseases of the Skin, 3rd ed., p. 80) mentions the case of a woman who took ichthyol internally for some time for an erythematous eruption of the face and then used an acetate of lead



lotion. Almost immediately the sebaceous secretion of each pore was turned black, giving the skin the appearance of being thickly covered with comedones.

Ichthyol, according to Chatelain (*Jour. d. mal. cut. et syph.*, 1893, v, p. 169) is the only sulphur remedy which is not incompatible with mercury and its salts. Thus one is able to combine the great antiseptic properties of the latter with the antiphlogistic action of the former.

#### HISTOPATHOLOGICAL CHANGES PRODUCED BY ICHTHYOL.

Vignolo-Lutati (*Monatsh. f. prakt. Dermat.*, 1904, xxxviii, p. 268) painted pure ichthyol on the combs of roosters. The experiments consisted of single daily applications and then repeated five times and ten times respectively. The specimens were in each case fixed in alcohol, embedded in paraffin and stained with eosin-thionin. His findings are approximately as follows:

*Single Application.* The horny layer, together with its coating of ichthyol, had separated from the underlying tissues. The epidermal surface under it consists of ill-defined, œdematous cells with scarcely visible nuclei, the whole forming a badly stained, almost homogeneous mass. Below we find the cells still œdematous, but more sharply defined. The nuclei are surrounded with clear, perinuclear spaces. The rete Malpighii shows a compensatory cellular hyperplasia, the cells being normal and staining well. The basal layer is normal and shows many mitoses. Owing to the œdema above and hyperplasia below, the epidermis as a whole is somewhat thickened. In such places where the horny layer has not actually separated, it is unstained and loosened from the underlying tissues. The dermis shows a moderate degree of inflammation.

*Ten daily Applications.* In this specimen, the changes noted above have attained a fuller development, showing such alterations as could be logically expected from prolonged action of the same agent.

Under low power, the horny layer appears as a black line, thin, necrotic and loosened from the underlying tissues in parts like a scale or crust. Beneath this we find a mass of œdematous, ill-defined cells of the old stratum lueidum. Below this is a young but completely formed epidermis, which is growing upward and pushing off the necrotic mass above it. In the basal layer, mitoses, as we might expect, are numerous and represent an effort to compensate for the cells lost by necrosis of the old upper layers.

The dermis shows a dilatation of the reticular spaces, some being filled with red blood corpuscles and a few leucocytes. The collagen is somewhat swollen and the fixed cells increased in numbers.

The changes noted by Vignolo-Lutati are corroborated exactly by clinical observation with the naked eye. If daily applications of pure ichthyol are applied to the normal skin, the latter when washed with soap and water to completely remove the ichthyol, begins to look tensely

drawn on the second or third day. Then the skin, when freed from the ichthyol, becomes decidedly darker in color and finally mask-like and grayish in tone. On about the tenth day, the horny layer cracks and can easily be peeled off, showing a fresh, tender, rose-colored, perfectly developed epidermis beneath it.

#### THERAPEUTIC PROPERTIES.

INTERNAL. When administered internally, ichthyol acts as an

Intestinal Antiseptic.  
Antifermentative.  
Decongestant.  
Astringent.

EXTERNALLY APPLIED, the action of ichthyol in varying proportions is:

Antiseptic.  
Astringent.  
Dessicant.  
Hæmostatic.  
Keratoplastic.  
Reductant.  
Resolvent.  
Exfoliant.

Its most valuable effects, however, are those of a

Vasoconstrictor.  
Antiphlogistic.  
Antipruritic.

Like salicylic acid, ichthyol is an invaluable *adjuvant* remedy in the treatment of inflammatory conditions of the skin.

From the above, it must not be understood that any particular ichthyol application will develop all or even a majority of the properties mentioned above. This is not the case because the action of the drug varies within wide limits according to the percentage used, its vehicle and the mode of application. Hence these three should be chosen carefully with reference to the requirements of each case or even each affected area.

#### ACTION OF ICHTHYOL UPON THE SKIN.

In a study of this remedy, Unna (Ueber Ichthyol, *Monatsh. f. prakt. Dermat.*, 1897, xxv, p. 533) tested clinically its constituents and found that the ichthyol sulphonic acid acts as a *keratoplastic* and has a mild, exfoliant action like that of resorcin and salicylic acid combined. The ichthyol sulphonic acid and ichthyol sulphon both act as *vasoconstrictors* and *antiphlogistics*. He states, further, that the power of ichthyol to act as a *reductant*, a fact long known from clinical experience, has now

received confirmation as a result of chemical experiments. Ichthyol sulphonic acid effects a true chemical combination with albumin.

**REDUCTANT.** Unna (Ichthyol und Resorcin, p. 67) states that ichthyol as a reductant is much inferior to pyrogallie acid, chrysarobin and resorcin. On the other hand, it is very much less irritating on local application than these agents and, like most drugs which are freely soluble in both water and oils, ichthyol possesses excellent penetrating power through the integral as well as the parakeratotic horny layer. Then ichthyol, by its reductant power in combining with the oxygen of the epidermis and causing at once increased keratinization of the latter, produces a hardening and slight contraction of the stratum corneum, stratum lucidum and stratum granulosum, together with increased mitosis of the stratum germinativum and keratinization in the layers above it. Hence this reductant action is of immense practical therapeutic value and it explains the manner in which the drug produces other most useful effects. Thus the:

**KERATOPLASTIC ACTION** is due to the reductant turning a weak, partially disintegrated or broken horny layer into a comparatively firm, dry and resistant surface. This is seen for instance in the effects of rather weak (4 to 8%) watery or alcohol-ether solutions upon the surfaces of an intertrigo. At the same time, the:

**ASTRINGENT AND DESSICANT ACTION** is noticeable because the increased keratinization of a swollen, œdematous epidermis causes a superficial contraction of the intercellular lymph spaces and a diminution of the fluid they contain. It should also be noted that ichthyol, according to Unna (Ichthyolfirmisse, *Monatsh. f. prakt. Dermat.*, xii, p. 49), acts not only as a reductant but also as a *hygroscopic agent*. The astringent and dessicant effects are therefore comprehensible and have permitted the employment of pure ichthyol as a:

**HÆMOSTATIC.** Thus Ihle (*Monatsh. f. prakt. Dermat.*, 1889, viii, p. 166) used a layer of cotton containing 20% ichthyol as a styptic dressing after circumcision, while von Hoffmann and Lange (*Therap. Monatsh.*, 1889, No. 5) found ichthyol undiluted to act as a very good hæmostatic in minor surgery. Much more important is the usefulness of the remedy as an:

**ANTISEPTIC.** This subject has been studied by von Nussbaum (Bedeutung des Ichthyols, *Monatsh. f. prakt. Dermat.*, 1888, vii, p. 193), Griffiths (Bactericidal Action of Ichthyol, *Med. Press*, 1896, lxii, p. 257) and R. Abel (Ueber die antiseptische Kraft des Ichthyols, *Centralbl. f. Bakteriöl.*, 1893, No. 13, p. 712). Abel sums up the results of his experiments as follows:

1. Ichthyol salts are able, in weak solutions and in a short time, to kill with certainty pyrogenic cocci, including that of erysipelas.

2. The staphylococcus aureus and albus, bacillus pyocyaneus, bacillus typhozæne, bacillus anthracis and the spirillum cholerae asiatica possess well-marked powers of resistance to ichthyol, which are at least so con-

siderable that pure ichthyol must act upon them for hours in order to kill these bacteria. Hence ichthyol cannot be compared with the usual antiseptics.

3. The diphtheria bacillus is killed by weak solutions of ichthyol but not when in colonies.

4. Ichthyol acts well in typhoid and ozæna, although it does not kill the causative microorganisms. This is due to its favorable effect upon the general condition of the patient rather than to any antiseptic effect.

5. Inasmuch as weak ichthyol solutions may actually contain virulent bacteria, such solutions should be either freshly made or boiled before using. Boiling does not diminish what bactericidal action ichthyol possesses.

Griffiths found that the micrococcus of erysipelas was destroyed by pure ichthyol in 50 seconds. A 5% solution destroyed the coccus in 35 minutes, while a 1% solution required  $3\frac{1}{4}$  hours to accomplish this effect.

Von Nussbaum states that not only does ichthyol kill fungi but by its drying of the skin, the growth of the microorganisms is hindered. Hence its value in lupus and in all diseases accompanied by vascular dilatation.

Unna (*Ichthyol, Monatsh. f. prakt. Dermat.*, 1885, v, p. 544) considers that "ichthyol is no antiseptic and cannot kill the cocci of Fehleisen, but it acts brilliantly (in erysipelas) by shrinking the tissues and thus making the area unsuitable for further growth of the bacteria. In his thesis "*Ichthyol und Resorcin*," p. 60, Unna states that ichthyol cannot be compared with such antiseptics as iodoform, carbolic acid and bichloride of mercury, but it is, nevertheless, most useful in the treatment of wounds and abscess cavities on account of its astringent, drying and keratolytic properties. As an:

**EXFOLIANT.** Like resorcin and other reductants, ichthyol is of undoubted value in those diseases of the skin which are characterized by a parasitic infection of the horny layer. Here ichthyol, pure or in 30% to 50% strengths, will cause the stratum corneum as well as the two layers below it to shrink, dry up and peel off, carrying with it colonies of bacteria and their products and thus relieve the skin so treated of the cause, en masse, of its malady. At the same time, the powers of penetration through both normal and pathologically changed skin enables ichthyol to act as a:

**VASOCONSTRICTOR.** This extremely valuable quality is possessed by some other reductants, but they are not nearly as active in this respect as ichthyol. In my rather extensive reading on the subject, I have been unable to find a clear and scientific explanation of the exact manner in which ichthyol reduces the calibre of dilated cutaneous blood vessels. This influence is admitted by all writers but none have stated how and why it occurs. Perhaps it is due to an absorption of the drug through the skin into the system which, on its way, exercises a drying, shrink-

ing effect upon dilated endothelial tissues, causing a contraction in the lumina of the vessels and the size of the lymph spaces. Max Lange, in speaking of the action of ichthyol applications in burns and in erysipelas (Thiol und Ichthyol, *Monatsh. f. prakt. Dermat.*, 1891, ix, p. 2), states that "ichthyol apparently goes through the epidermis which is shrunk, dried up and peels off, to the seat of the inflammatory process and reduces the latter through a combination of vasoconstricting, antiseptic and anodyne actions, producing relief of pain and reduction of temperature." The therapeutic worth of any remedy possessing a *reliable* vasoconstrictor action is evident. Not only would it enable one to control inflammatory reaction with its accompanying redness, swelling, pain and secondary changes, but chronic inflammations and processes with passive congestion and vascular dilatation might also be easily cured or at least greatly improved. That ichthyol very often does act well in such cases, no one who has used it extensively will deny, but it is equally true that in many instances the drug appears to be absolutely devoid of influence and completely disappointing.

There are many, however, whose faith in ichthyol as a vasoconstrictor is unbounded. Unna, for instance, recommends a 10% ichthyol collodion for the cure of the angiomata of infants. This treatment has given him good results. But Jessner (*Dermatologische Heilmittel*, p. 42) attributes its favorable effect to the pressure exerted by the contractile collodion rather than to ichthyol.

In those cases where the vascular contraction produced by ichthyol is evident—and they are sufficiently numerous at least to warrant a trial of the drug—this contraction is accompanied by pronounced *anodyne*, *decongestant* and *resolvent* effects. In acute erythema and dermatitis, the redness, œdema and itching are diminished, while in chronic processes with infiltrated areas, softening and resolution are seen. Hence ichthyol is referred to by many writers as an *antiphlogistic* and in many cases certainly deserves this designation.

#### INTERNAL ADMINISTRATION.

**GASTRO-INTESTINAL.** While this agent has been employed internally in a large number of maladies we will consider here only those which are more or less closely related to diseases of the skin, namely, certain affections of the gastro-intestinal tract. Among these may be mentioned chronic gastric and intestinal indigestion in its many forms, alcoholic and other types of gastritis, gastropptosis, enteroptosis and particularly chronic constipation. Ichthyol alone is certainly not capable of curing these conditions, but in its quadruple rôle of gastro-intestinal antiseptic and antifermentative, decongestant and antiphlogistic, it often acts successfully in relieving chronic passive congestion, catarrh of the mucous membranes and probably also in diminishing the absorption of toxic material from the bowel. The beneficent secondary effect

of this therapeutic activity upon such cutaneous affections as kerosis, seborrhœa, acne vulgaris and rosacea (as examples) becomes evident when we consider their etiology. Certain forms of eczema and other skin diseases also appear to be favorably influenced by the internal use of ichthyol.

**ACTION OF ICHTHYOL WHEN GIVEN BY MOUTH.** The action of ichthyol given internally not only exercises a very favorable effect upon the gastro-intestinal tract and thus secondarily upon certain cutaneous affections but it also appears, like sulphur, to be able to exert a therapeutic influence upon the skin itself through the blood and the cutaneous secretions. The case cited by Crocker and mentioned above under the head of incompatibilities as well as other similar experiences reported by German writers appear to establish this fact beyond all doubt. Hence the internal administration of ichthyol as an aid to its or other external applications seems to be amply justified.

Unna was among the first to give ichthyol internally for cutaneous affections. He considers it (Ichthyol und Resorcin, p. 38) most useful in all forms of acne and states that this drug may be given for long periods of time without injury to the patient. He gives one gram daily of the ammonium salt in pill form, for months and even years. He believes it particularly useful in kerosis (Darier), seborrhœa and the rosacea of those who eat and drink too much (*Gebrauch des Ichthyols bei innerer Krankheiten*, *Monatsh. f. prakt. Dermat.*, 1889, ix, p. 586). These recommendations are substantially endorsed by the Handbook of Therapy of the American Medical Association (p. 328). Von Nussbaum (*Ueber den inneren Gebrauch des Ichthyols*, *Therap., Monatsh.*, 1888, No. 1, p. 9) advises ichthyol in pill form in all conditions characterized by *capillary dilatation*. Here the drug acts very well indeed.

Know (*Wirkung innerer Ichthyolgaben*, *Monatsh. f. prakt. Dermat.*, 1894, xix, p. 310) corroborates this and states that ichthyol pills and ichthyol locally and a diet devoid of such vasodilators as tea, coffee, meat and alcohol, constitute our best means of combating acute and chronic congestions. Martin (*Formulaire magistral*, p. 517) claims that ichthyol given by mouth is capable, after absorption, of diminishing the destruction of albumin, favoring its formation and stimulating nutrition. Potter (*Therapeutics*, 12th ed., p. 481) makes a similar statement, but Wilcox (*Materia Medica*, 7th ed., p. 467) believes that "it is doubtful if it is of any practical value." Cushny pessimistically remarks "it seems probable that its sphere of utility will be very much more restricted in the future if it does not disappear from therapeutics entirely." The United States Dispensatory (19th ed., p. 1522) states that "so far as is known, ichthyol has little or no general action." Liebreich and Langgard (*Arzneiverordnung*, 6th ed., p. 437) refer very favorably to the effects of ichthyol per os, while Hare (*Therapeutics*, 13th ed., p. 289) considers that "ichthyol is without doubt one of the most remarkable substances introduced for medicinal purposes within

the last twenty years," but this does not apply to its internal administration alone. Leistikow and Darier (*Thérapeutique*, p. 116) advise ichthyol internally for rosacea, frostbite and all dermatoses with circulatory stasis. Crocker (*Diseases of the Skin*, 3rd ed., p. 80) writes, "as an internal remedy, I have found it useful in reducing some of the hyperæmia in affections of the face, as in some of the erythemata, lupus erythematosus and rosacea. It appears to do this by leading to the contraction of dilated vessels and sometimes it may do so indirectly by its beneficial effect on catarrh of the mucous membranes."

ELIMINATION OF ICHTHYOL FROM THE BODY. Zuelzer (*Ueber den Einfluss des Ichthyols auf den Stoffwechsel*, *Monatsh. f. prakt. Dermat.*, v, p. 547) and Ceconi (*Arch. ital. d. clin. med.*, 1894, No. 4, p. 91) studied this question. Ceconi's conclusions are as follows:

1. Of the sulphur contained in ichthyol, only a little over one-third is eliminated by the urine.
2. The excretion occurs as organic sulphur. An increased elimination of organic sulphur was not found.
3. The unused sulphur is excreted by the intestinal tract, where a diminution in albumin decomposition occurs.
4. The elimination of phosphorus is not influenced by ichthyol.

Zuelzer believes that the influence of ichthyol upon metabolism may be due to its large sulphur content. He found that even small doses of ichthyol caused notable changes in the urine and always in certain definite constituents. Chlorides increased  $3\frac{1}{2}\%$ , the color was usually darker, there was a violet odor, fixed solid constituents diminished 11% in 24 hours and the nitrogen total was reduced 14%.

DOSAGE FOR INTERNAL USE. Ichthyol may be given with equal parts of peppermint water in doses of 3 to 5 drops three times a day on an empty stomach. Later, the dose may be gradually increased until 60 drops are taken daily. Capsules and gelatine coated pills in similar dosage may also be used. The patient suffers considerably during the first few days from eructations and, though rarely, a feeling of nausea. Both of these symptoms usually subside completely as soon as tolerance is established. When pills without coating are used, marshmallow has proved to be the best excipient. Licorice is also employed.

Ichthyol given in this manner actively affects the mucous membrane of the stomach and secondarily that of the intestines. If it be desired to treat the latter alone and at the same time relieve the patient of any unpleasant gastric symptoms, pills with enteric coating which are dissolved only by the intestinal secretions, should be used. I have found these so-called enteric pills to be the best way of giving ichthyol internally to American patients as our countrymen do not appear to tolerate ichthyol in the stomach as well as Germans and the French. The use of such enteric pills produces absolutely no unpleasant symptoms whatever but, of course, the extremely valuable local action of the drug upon the gastric mucous membrane is entirely lost.

## THE USE OF ICHTHYOL IN CERTAIN DISEASES OF THE SKIN.

**ERYSIPELAS.** Ichthyol is generally conceded to be one of the best if not the best remedy we possess for this condition. The conclusions of Klein (*Die Behandlung des Erysipels, Berl. klin. Wchnschr.*, 1891, No. 39) represent the opinions of many other writers. He found that:

1. Ichthyol acts as a deterrent to the development of the cocci in the skin, either through its reducing action on the tissues or through direct action on the bacteria, or both.

2. Ichthyol shortens the duration of the disease 50%, or 3 to 4 days if ichthyol be used from the beginning.

3. The course of the disease is much milder as can be seen from the lower temperature.

Schwimmer (*Das Ichthyol in seiner therapeutischen Verwendung, Wien. med. Wchnschr.*, 1892, Nos. 29-30) regards ichthyol as a specific for this disease and obtained splendid results with 20% to 30% ointments. Eschle (*Behandlung des Erysipels mit Ichthyolpinselungen, Die Heilkunde*, June, 1901) painted pure ichthyol daily on the affected surfaces and noticed a marked improvement in the symptoms and a limitation of the disease to the original areas. The skin peeled off at the end of a week, leaving a healthy epidermis. Complications did not occur. H. A. Hare (*Therapeutics*, 13th ed., p. 290) uses

R	Ichthyolis . . . . .	16.0
	Olei citronellæ . . . . .	1.0
	Adipis lanæ hydrosi . . . . .	30.0

and considers it the best external remedy for erysipelas that we have. The skin should be carefully and gently washed, then anointed with this ointment and covered by lint, liberally smeared with this ointment. If the disease be on the face, holes are cut for the mouth, nose and eyes.

Unna (*Wie behandelt die neuere Dermatologie Erysipel, Monatsh. f. prakt. Dermat.*, 1889, viii, p. 241) states that the skin of the face and scalp bear strong solutions of ichthyol well. Simple zinc paste can be used as a vehicle and even on the scalp if the hair be cut short. Linseed oil, which is a feeble reductant, may also be used. The mucous membrane of the nose and throat should be carefully protected from infection by means of irrigations with a weak, watery solution of ichthyol. Taenzer (*loc cit.*) believes that ichthyol gutta percha plaster muslin surpasses by far all other methods of treating erysipelas.

E. S. Bresse (*Merck's Archives*, 1905, vii, p. 57) painted the affected areas and somewhat beyond them with equal parts of ichthyol and tincture of iodine. The symptoms usually abated in from three to five days and the epidermis of the affected area exfoliated. In another paragraph I have referred to the use of a combination of iodine and ichthyol. Iodine is probably the most reliable and useful cutaneous antiseptic we have and its incorporation into pure ichthyol or ichthyol



applications in the proportion of from 1% to 3% or more of the crystals, previously dissolved in a small quantity of alcohol and ether, should furnish a most efficient remedy. The tincture of iodine, mentioned by Bresse, should not, in my opinion, be used, owing to its content of potassium iodide, which is absolutely incompatible with ichthyol.

The fact that ichthyol is practically devoid of toxic properties and almost non-irritating enables it to be applied to the entire surface of the body, according to Unna (*Ichthyol und Resorcin*, p. 56), for the treatment of migrating erysipelas.

Jessner (*Dermatologische Heilmittel*, p. 42) does not regard ichthyol as a specific for erysipelas, but adds that this remedy certainly does a great deal of good, acting as an antiphlogistic rather than an antiseptic. He uses pure ichthyol, a 50% watery solution or a 30% collodion and urges that in all cases the scalp be covered with the preparation *before* this area is involved.

**FROSTBITE.** For this condition ichthyol has been extensively used and very highly recommended on account of the influence of this drug upon the blood vessels and hence upon the reëstablishment of normal circulatory conditions. Jadassohn is quoted by Merck's *Jahresbericht* (xx, 1906) as advising the following treatment: Bathe the parts affected from one to three times a day in water as hot as can be borne. Dry, wash with alcohol and apply, each evening:

R	Ichthyoli .....	1.0-5.0
	Resorcini .....	1.0-3.0
	Adipis-lanæ .....	25.0
	Ol. olivarium .....	10.0
	Aq. Destill. ad. ....	50.0 M.

This should be rubbed in thoroughly. The English edition of Merck's book on ichthyol attributes this formula (p. 142) to Hecht. Other writers use 10, 25, 33 and 50% ichthyol ointments or combined with such gentle cutaneous stimulants as camphorated oil, Peru balsam, oil of turpentine in equal parts or with the addition of lanoline. When the skin is broken and the pain severe, moist dressings with a 1% solution are recommended by Lorenz (*Therap. Monatsh.*, 1887, p. 693).

**BURNS.** Ichthyol appears to be one of the best remedies at our disposal for the treatment of burns. The qualities of vasoconstrictor, desiccant, astringent, antiphlogistic and anodyne make it peculiarly suited for the treatment of this condition, while the tough protective coating which ichthyol produces upon a surface painted with the drug adds to its value. Klotz (*Strong Solutions of Ichthyol in Acute and Chronic Inflammatory Conditions of the Skin*, *Jour. Cutan. Dis.*, 1897, xv, p. 462) used ichthyol as a 50% watery solution with very good results for burns of the first and second degree. Leistikow (*Zur Behandlung der Verbrennungen mit Ichthyol*, *Monatsh. f. prkt. Dermat.*, 1895, xxi, p. 441) found ichthyol the best of all remedies for burns. Pain is re-

duced at once and permanently and when early use is made of this drug, superficial burns heal almost spontaneously as the hyperæmia disappears with desquamation of the horny layer. Burns of the second degree, even when extensive and after rupture of the bullæ, are favorably influenced; after the first application, hyperæmia diminishes and epithelial regeneration begins at once with desquamation of the scabs, while the pain is relieved.

Leistikow recommends for burns of the first degree the following powder liberally applied over the affected surface:

R	Zinci oxide .....	20.0	
	Magnes. Carb. ....	10.0	
	Ichthyoli .....	3.0	M.

For burns of the second degree, Leistikow uses the following paste:

R	Calcar. carbon .....	10.0	
	Zinci oxidi .....	5.0	
	Amyli .....	10.0	
	Zinci Ol. ....	10.0	
	Ichthyoli .....	3.0	
	Aq. calcis .....	10.0	
			M. F. pasta.

This is spread over the area affected, upon a layer of previously applied powder.

**ROSACEA.** For this condition ichthyol almost always acts well and the number of writers who endorse the use of the drug for this affection is too large to permit separate mention. Not all patients with rosacea have the tough, thick skin of kerosis, although this, according to Darier, is the usual foundation for the first named malady. Hence, as Chatelain (*L'ichthyol, Journ. d. mal. cut. et syph.*, 1893, v, p. 169) observes, an ointment containing 2 to 10% is strong enough when the skin is thin and sensitive. For the frequent combination of acne and rosacea, the quantity of ichthyol is increased to 25%. In rosacea resembling frosbite, Chatelain recommends a weak ichthyol varnish. In all cases he gives internally 1 to 4.0 of ichthyol daily. Other authorities recommend painting pure ichthyol on the affected areas of the face. I have advised this for several years and have not noticed any tendency of the drugs to unduly irritate the skin. It is hardly necessary to state that the only way to permanently and completely cure rosacea is to remove the cause and, save in the case of cooks and others exposed to heat in their daily work, this is usually found in dietary errors and in pathological conditions of the gastro-intestinal tract.

**ACNE.** Ichthyol has been used by many writers for acne vulgaris. While sulphur, resorcin and salicylic acid in various combinations appear to be the most widely used drugs for ordinary cases with only a moderate degree of inflammation, ichthyol seems to work well, according

to George T. Elliot (*Med. News*, New York, Nov. 17, 1900), where there is much pustulation. He used 4 to 50% solutions and found the latter to frequently abort the lesions. I have several times been consulted by young women who have been distressed by the appearance of acne lesions immediately before the beginning of each menstrual period. Two of my male patients suffered from acne lesions of the forehead shortly after having been obliged to wear tight fitting hats or caps while engaged in outdoor sports in windy weather. For both classes of cases, I have advised the application at night of:

R	Acid. Carbol. ....	3.0
	Camphor. Pulv. ....	
	Menthol. Cryst. ....	10.0
	Ichthyoli ....	ad 100.0 M.

This is washed off in the morning and usually, though not always, causes a disappearance of the lesions if applied when they first appear. This same mixture is also a useful application for preventing and absorbing swelling and discoloration of the skin resulting from traumatism, particularly the "black eyes" of boxers.

Pure ichthyol has been painted in several coats upon the lesions of indurated acne in order to aid in the absorption of the infiltrations.

**FURUNCULOSIS.** Ichthyol has been used by quite a number of writers for furuncles. Bruch (*Münch. med. Wchenschr.*, 1911, No. 25) obtained good results without operation by painting the lesions with pure ichthyol and covering with leucoplast. The dressing is renewed daily after previously cleaning the part with cotton and benzine. Pain is rapidly eliminated and further infection is stopped. Hodara (*Monatsh. f. prakt. Dermat.*, 1901, xxxii, p. 604) used the same treatment with excellent results. The furuncles softened, opened and emptied their contents and then healed rapidly. Hodara covered the thick layer of pure ichthyol with cigarette paper to protect the clothing.

**CARBUNCULOSIS.** Rosenbaum (*Med. Journ.*, New York, lxxvii) treated carbuncles by a dressing consisting of a thick layer of 10% ichthyol ointment on six to eight layers of gauze soaked in Thiersch's solution. Over this was placed an overlapping piece of rubber protective. The bandage remains for two days and when removed the "cores" will be found to have separated from their respective walls. The second bandage, like the first, remains for two days and its removal should show the "cores" entirely loose in their cavities, from which they can be removed without pain to the patient. Healing then occurs rapidly, leaving small, inconspicuous scars.

**KERION.** Ichthyol has been used for kerion. It is applied undiluted to and around the affected part in several layers daily and with results similar to those obtained in carbunculosis.

**ICHTHYOSIS.** Klonk (*Ohio Med. Journ.*, 1896, p. 145) gave a pa-

tient with this affection baths of 20 minutes' duration containing 1% of ichthyol. These were followed by washing with soap and water and drying. Three times weekly baths of sea salt were substituted. Internally, three capsules, each containing 3 grains of ichthyol were given daily and then increased until six and finally eight were taken. The patient gained in weight, the horny masses fell off and the skin became smooth, moist and soft. The writer regards ichthyol as a specific in ichthyosis.

At a meeting of the Berlin Dermatological Society, May 12, 1908, Lippmann showed a girl baby with ichthyosis. The condition had been rapidly improved through the use of an ichthyol ointment.

*(To be continued.)*

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## SOCIETY TRANSACTIONS.

### MANHATTAN DERMATOLOGICAL SOCIETY.

April, May, October, November and December, 1912, January, February and March, 1913. .

LUDWIG OULMANN, M.D., *Chairman.*

#### SARCOMA CUTIS. Presented by DR. OCHS.

The patient was a small boy who had been presented to the Society twice before. At that time there was some question in regard to the diagnosis, but the microscopical one agreed with the clinical since then. Dr. Satenstein agreed, Dr. Ochs said, with him in calling the case a sarcoma.

DR. GOTTIEIL said he saw the case two weeks ago, when a sudden hæmorrhagic eruption of a peculiar type had occurred two days before the case was seen by him. All around the sarcomatous skin, occupying an extensive area from four to five inches around it on all sides was a telangiectatic eruption, composed apparently of a meshwork of closely aggregated arterioles, venules and capillaries, some bluish and others red. There was no distinct extravasation outside the vessels; and yet the outburst had been sudden, and the vivid coloration had already begun to subside, and it promised in a few days to become brownish and disappear, just as ordinary capillary hæmorrhages would, and just as occurred in a previous similar attack, which he had seen in its later stages. Both the mother and Dr. Ochs affirmed that the boy had had more than one similar attack in the last weeks; that they came on without warning or symptoms; and that they faded away like an ordinary hæmorrhage in a few days, but were followed in a few days with a marked extension of the sarcomatous lesions. It was difficult to understand the mechanism of this process though it was undoubtedly connected with a sudden extension of the disease. The sudden appearance of these arborescent vessels over a very large area of skin all around the tumors might have meant a sudden blocking of the larger vessels by infective material;

the superficial circulation, arterial and venous, appeared to be suddenly and permanently stopped; and the stationary blood being practically outside the circulation as much as if it had been effused from the vessels, underwent the ordinary changes just as if that had occurred. The precedent attacks had left no permanent traces behind, and this one he supposed would do likewise.

The microscopic appearances in this case were exactly those of a hæmorrhagic sarcoma, though the appearances externally were not those of the Kaposi disease. The boy was failing fast, glandular involvement (local) was becoming marked, and he doubted if arsenic, or in fact any treatment, would be of benefit. Nevertheless it was the duty to attempt something, if only for the purpose of sustaining the family's morale; he suggested the use of Coley's toxins.

DR. McMURTRY said that the case looked like sarcoma to him, but that in the sections for the microscope the cells were not diffuse throughout the connective tissue as seen in ordinary sarcoma, and that it was quite a remarkable case.

DR. OCHS said the patient had been receiving arsenic injections and for the itching had been getting anti-pruritic treatment.

DR. FOX thought the case presented an extraordinary clinical picture worthy of reproduction in the *Ikonographia Dermatologica*.

DR. OULMANN said it reminded him of Dr. Dittrich's case, where the clinical picture was entirely different, but where the histological picture was very similar to the picture in this case and which he regarded as hæmangio-endothelioma (congenital).

DR. OCHS stated that he had brought the case before the Society again in the hopes of getting some suggestions as to treatment. He said the X-ray was contraindicated, and wanted to know what the opinions might be in regard to the use of Coley's toxins.

DR. OULMANN said he saw a case of sarcoma of the buttock, which had received Coley's treatment without the least benefit at that time. About six months later an involution took place and the case which had been operated on twice and had relapsed, cleared up and no recidive came on within the last two years.

DR. OCHS said he once had a case of sarcoma of the tibia come under his care. Coley's fluid was used, and in less than one month the patient died. Another case came to his mind which also went from bad to worse rapidly, and for that reason there was some hesitation on his part in using Coley's treatment on this boy.

#### MYCOSIS FUNGOIDES. Presented by DR. OULMANN.

The patient, Mrs. H. G., fifty-six years of age, was born in Germany. About two and one half years before presentation to the Society the patient came under Dr. Oulmann's care. She had previously been under treatment at some hospital, but not for the skin trouble. She had at that time a small tumor on her forearm, which was removed and declared of dangerous nature. She did not mention there that she had a skin rash, which had itched for a couple of months. When she came to Dr. Oulmann there were a large number of dry, circumscribed, eczematous patches, and a diagnosis of mycosis fungoides was easily made. She had been presented two years previously at the Academy Section. The diagnosis was not doubted. Six months before, the patient had been away from New York, and on coming back was under treatment by Dr. MacKee, and Dr. Oulmann saw her only occasionally. When she was presented to the Society there was less eczematous condition present,

but around the neck there were a number of hazel-nut-sized, hard tumors, and the patient had lost considerably in weight.

**TINEA CIRCINATA.** Presented by Drs. MacKEE and WISE.

The patient was a small boy who came from Dr. Fordyce's clinic. He had a ringworm situated over the right eyebrow, and Dr. Wise stated that he had exhibited the case because of its peculiar location, and the fact that the hair of the eyebrow was apparently not involved.

**VERRUCÆ SENILES?** Presented by Dr. GOTTHEIL.

The lesions were remarkable for their large size, great number, and rapid growth, together with diffuse pigmentation, slight atrophy, and some telangiectasis, in a patient 37 years of age.

Mrs. W. H. S., aged 37, had been sent to Dr. Gottheil through the courtesy of Dr. W. H. Boese. The spots, described as pimples or warts, began to appear on her chest and neck seven years previous to her presentation to the Society. They were few in number when first noticed, perhaps a dozen or so, and small and inconspicuous; they grew in size and deepened a little in color as time went on, and new ones appeared. The face, abdomen and back finally became affected; then some appeared on the hands, and when presented they were just beginning to appear on the hands, thighs and legs. There had been no subjective symptoms referable to the lesions, but the patient complained of a thickening of the skin of the palms and soles, and a tendency to painful crackings of the tips of the fingers, especially in winter and when she did much house work; also a dryness and scaling of the lips and a feeling of tightness around the mouth and face. Her general health had not been good for a long time past, but she complained of no special trouble.

Examination, Nov. 23, 1912. A slender, somewhat undersized woman of a sallow, yellowish complexion. Her neck, chest, back and front, and her abdomen were studded with many hundreds of typical senile warts, small, flat, greasy excrescences, some of which were darkly pigmented. Most of them were pin-head sized, but a number of them were as big as a large pea. They were especially abundant on the neck and upper abdomen; there were some upon the face and the backs of the hands, and isolated lesions elsewhere. The lips were dry and scaly; the skin of her face was somewhat drawn, though not palpably thickened, and there was a distinct telangiectasis which had been present several years, at the tip of her nose. There was also a slightly marked diffuse vascularization of her cheeks, and the patient stated that the redness, both of cheeks and nose, became more prominent every month at her menstrual periods. The skin of the palms and soles was more or less thickened; there was a tendency to eczematous cracking at the finger tips, and the skin on the backs of her hands, which was quite thin and atrophic for her age, was stated by the patient only to have gotten so

during the last few years. The skin of her lower legs around and over her ankles had accentuated furrows and looked ichthyotic. Dr. Gottheil regarded the case as one of extensive verrucæ seniles prematuræ, with some other signs of dermic senility, and advised Dr. Boese to limit his therapeutic activity to attempts at improving the patient's general condition and that of her skin more especially, together with the removal or destruction of such verrucæ on the neck or face as were especially annoying.

Jan. 2, 1913. The patient was seen a second time on account of a deepening of the general cutaneous discoloration, and a large increase in size and number of the warts. Examination showed both observations to be correct. The brownish yellow tinge of her complexion had deepened, though the tint was not that of jaundice, and her mucosæ were unaffected. The feeling of tightness of the skin of the face was more marked, as was the dryness and scaling of the lips. Most noticeable, however, was the increase in the verrucæ in five weeks. This was especially noticeable on the upper abdomen where they had increased by at least 50% in number, and more than that in size. Many of them in this location were now the size of a large pea or small bean; and one at least was growing as a three quarter inch long and one-third inch wide streak. Most of the lesions were of the typical verrucæ senilis type, soft, rounded, more or less pigmented excrescences, of a peculiar velvety feel. Examination of the internal organs showed nothing abnormal, save a moderate enlargement of the spleen; the lymphatic glands especially, showed no change; there were no nerve trunk enlargements, nor any distinct muscular atrophies. There was some anæsthesia of the skin on the balls of the great toes only; the patient stated that she had had numbness of these areas for some time, but that it was much better now than formerly.

DR. GOTTHEIL said he was aware that in presenting the case at the time, before there had been any opportunity for biopsy, blood examinations, etc., the data were necessarily imperfect; that the slight though apparently progressing signs of cutaneous degeneration must be further studied, and that the tumors themselves might have been signs of an entirely different affection.

DR. MCMURTRY said he thought the lesions were entirely too soft for verrucæ seniles. He believed the pigmentation that was present to be in the dermis rather than in the epidermis. He said he would not care to make a positive diagnosis until he had seen more of the case.

DR. WEISS said, excluding all the higher types of disease which this case might suggest, he would call it hypertrophied ephilide or ephilides hypertrophicæ verrucosæ.

DR. WISE agreed with the diagnosis of senile warts. He said the interesting and unusual feature of the case was the youth of the patient. Had these lesions appeared on an aged woman they would have given rise to very little comment.

DR. BLEIMAN said the bronzed nature of the skin would suggest Addison's disease.

DR. OULMANN said that he did not think cases like this, of so-called senile warts in younger persons were so very rare, and that he had seen a woman under treatment who was not yet forty, and had also seen many cases cited in the

literature. He said some of these cases might have a different underlying condition, and that he saw a case at the Academy Section of senile warts which afterwards developed into Darier's disease.

Dr. G. H. Fox thought that Darier's disease could be ruled out in this case and agreed with the probable diagnosis of senile warts.

#### PSORIASIS. Presented by Dr. WEISS.

The patient was a small boy, five years of age. He presented a very generalized psoriasis. He had the usual diseases of childhood, and there never had been any history of psoriasis in the family. Dr. Weiss stated that he showed the case because it seemed of interest taking into consideration the age of the patient.

#### SYPHILIS TREATED SURGICALLY. Presented by Drs. MacKEE and WISE.

The patient, a married woman of 42, had been under observation at Dr. Fordyce's clinic for eight months. When she first appeared at the clinic there was an ulcer on each side of the nose the size of a twenty-five cent piece. These lesions were deeply seated and the tissues in the immediate neighborhood were red but not markedly infiltrated. There was a similar ulcer on the forehead. Scattered between these lesions were several cicatrices of former ulcers. There were, also, several linear scars, varying from one to six inches in length, in the affected region. There was no definite history of syphilis, but the Wassermann reaction was positive. The patient stated that the eruption began five years ago and that she had been operated upon five times. She was subsequently given anti-syphilitic treatment and the ulcers underwent prompt involution. When presented to the Society there were only the scars from the ulcers and from the various surgical operations to be seen.

Dr. GOTTHEIL said these mistakes were not uncommon and the surgeon operated on them and of course got good results and credit. Some time ago he saw a young man of twenty-two who came accompanied by his father and the physician in whose sanitarium he had been for three weeks for observation. He had an immense exulcerated lesion of the lower lip; the microscope had confirmed the diagnosis of carcinoma, it was said; and he was brought to town for a very extensive operation, including removal of the glands of the neck, resection of the jaw, etc. On his way to the surgeon's office it was suggested that it would do no harm to have an additional opinion, and they called on the speaker. The lesion was manifestly an immense gummatous infiltration, infected and breaking down; and the speaker did his best to persuade the physician in charge to delay the operation for only three days, and to let him give the patient a single massive insoluble mercurial injection. He was sure that in that short time it would demonstrate the correctness of the diagnosis. The attendant said that mercurial treatment had been tried, without result, but that he would follow Dr. Gottheil's advice himself. He heard nothing more of the case for two weeks, when he received an effusive letter of thanks from the physician, with photographs showing the patient's condition. The photograph showed almost complete cicatri-



zation of the enormous lesion. Dr. Gottheil's experience was that such cases were operated on quite often.

Dr. G. H. Fox said he had observed and photographed a case of syphilis in which an operation had previously been performed through a probable mistake in diagnosis. The patient, a man, presented several typical gumous lesions upon the chest, and the scar of an extensive Halstead operation for removal of the breast and axillary glands. The operation had been performed a year before for the removal of lesions, which, according to the patient's statement were similar to the ones existing.

#### PLANTAR SYPHILIDE. Presented by Drs. MacKEE and WISE.

The patient was a married woman, 35 years of age, from Dr. Fordyce's clinic. The only fact of interest in her past history was that she had had two miscarriages. The soles of both feet, from the tips of her toes to the posterior extremity of the heel, were covered with a squamous eruption. The lesions extended around the sides of the feet to the dorsal surfaces. The skin between the toes was also affected. There were several deep fissures. The eruption consisted of confluent and discrete squamous patches varying in size from a ten cent piece to that of a silver dollar. The lesions were arranged so as to form gyrate patches. They were, for the most part, fairly well margined and in several places a well-defined scalloped border was depicted. The Wassermann reaction was negative.

Dr. GOTTHEIL said he thought that both eczema and syphilis were present in this case. He stated it was not uncommon to have an eczema, even of the impetiginous type coexisting and secondary to a papulosquamous palmar syphiloderm.

Dr. KINCH said that these lesions appeared to him to consist of an eczema upon a syphilitic base; it was a well-known fact that parasitic eczemas, psoriasis and other discrete affections of the skin occurring in patients who had previously been infected with syphilis, were likely to show the configuration of a syphilis. The corona-veneris was usually a combination of seborrhæic eczema with syphilis.

Dr. WISE was of the opinion that squamous syphilides of the palms and soles occurred with the same frequency bilaterally as they did unilaterally. He did not consider the occurrence of a unilateral lesion as favoring the diagnosis of syphilis nor the occurrence of a bilateral lesion as favoring the diagnosis of eczema, in squamous palmar and plantar lesions.

#### PALMAR SYPHILIDE. Presented by Drs. MacKEE and WISE.

The patient was a woman, 34 years of age, from Dr. Fordyce's clinic. There was no history of syphilis. The Wassermann reaction had been made, but the report had not been received when the patient was presented. The eruption was limited to the palms of both hands and was absolutely symmetrical. It consisted mostly of raw-ham colored macules, with a very few, slightly scaly papules. There was a marked grouping of the lesions. The duration of the eruption, according to the patient's statement, was one year.

**POMPHOLYX.** Presented by **DRS. MACKEE** and **WISE**.

The patient, a man of 38, was from Dr. Fordyce's clinic. The duration of the present trouble was six months. There was excessive sweating of both hands, with small, deep-seated vesicles in the skin of the palms between the fingers. There was, also, some exfoliation of the epidermis.

**PSORIASIS VULGARIS.** Presented by **DR. BLEIMANN**.

The patient was a male adult, 40 years of age, born in Hungary; he stated that his skin lesions began about 8 years ago. At times the lesions would disappear either spontaneously or as the result of treatment. There were many acute outbreaks during the first six years; after a lapse of several months they again appeared and the present lesions were of two years' duration. The interesting features which were quite discernible were the peculiar thick, tenacious and heaped up scales, the latter of a very light yellowish color, resembling in their condition a likeness to parakeratosis scutularis. Microscopically no fungi were found. The elbows and the knees were never involved. At the time of presentation the lesions showed well on the back, chest and thighs; on the back, as large circular spots with abundant and heaped up scales, and on the chest and thighs the lesions were similar, but smaller in size.

**MORPHCEA.** Presented by **DR. WEISS**.

The patient was a male adult, aged sixty-five, Russian by birth. He was apparently in good health. About 4 months previously, before presentation to the Society, he noticed the appearance of a large patch on the anterior surface of the left thigh. Then he noticed a like patch on the right side of his abdomen. About one month later he had a pruritus in the sacral region for which he sought medical advice.

On examination there was found a large rounded patch, six inches in diameter, on the right side of the trunk extending from just below the nipple to about the inguinal region, not trespassing, however, the middle line. The left side of the trunk showed another similar patch of nearly the same size and distribution. On the back a large pale, white patch was seen extending from the last dorsal vertebra to the sacrum. This lesion was whiter than the others and occupied nearly the whole vertebral column in a butterfly-like shape. There were also patches on the shoulders, some of them showing atrophy already as a sign of beginning retrogression. All the patches showed the white glistening centre and violaceous lilac-tinted zone of dilated capillaries around the margins.

Dr. Weiss remarked that in the light of modern investigations it was somewhat arbitrary that these forms of circumscribed scleroderma should be called morphœa, which meant nothing but shape or form. He suggested the name circumscribed scleroderma.

DR. OULMANN said he would call this case morphœa. When there was a distinct pinkish margin present, as in this case, there was no doubt about it being morphœa, while scleroderma was the diffuse process of the same nature.

#### ICHTHYOSIS. Presented by DR. OCHS.

Philip S., aged 53, had had a dry skin ever since he was a small boy. Upon examination it was found that his arms, legs, hands and neck were hard, dry and tough to the touch. He had a constant ichthyosis for some time. He never sweated on the affected parts, and the condition was somewhat better in summer. The case was presented on account of the variety of this condition in the adult.

#### MULTIPLE CHANCRES OF THE HAND. Presented by DR. PAROUNAGIAN.

The patient, Mrs. C., aged 24, Austrian by birth, was bitten by a woman about the latter part of November. She immediately went to a drug store and had the wound dressed, and the next day she applied at the surgical clinic of the Post-Graduate Hospital.

At the time of presentation to the Society the wounds were still unhealed. About a week previously she suffered with headaches, and four or five days before presentation a slight rash appeared on the trunk. Dr. Vincent kindly referred her to Dr. Pollitzer's clinic for diagnosis and treatment.

The lesions were on the left hand; they were three in number and located at the dorsal surface. They were about the size of a dime; she had indurated epitrochlear glands, which on the left side were greatly enlarged and painful; she also had general adenopathy and a very distinct roseola.

#### LICHEN PLANUS. Presented by DR. OCHS.

The patient was a colored child, female, six years of age. The lesions began to appear about three years previous to the presentation to the Society. A rash started on the backs of the hands and gradually worked up to the elbows, and one year after, similar lesions appeared on the legs. A rash was beginning to spread over the chest. The rash itself consisted of a patch of closely aggregated, small, polygonal, flat topped papules with depressed centers, which were of a violaceous hue. Dr. Ochs said the peculiar thing about this case was that the rash was confined to the arms and legs principally. There was also a papular rash of an eczematous character on the forehead. The lesions were very itchy and had persisted for several years. The child was never free of these cutaneous lesions.

DR. MOUNT said he believed this to be a case of prurigo, because of the

round acuminate papules on the extensor surfaces of the extremities and forehead.

DR. WISE said that he agreed with the diagnosis of prurigo.

DR. HOWARD FOX thought the case was a typical one of prurigo, from the location and character of the lesions.

DR. OULMANN said he never saw a case of lichen planus where the forehead was involved, while in this case the entire forehead was densely filled with the same kind of papular lesions as on the arms. He therefore called this a case of prurigo. He said that biopsy would show the differentiation of the two diagnoses.

DR. OCHS said he had gone over the case very carefully with his assistant, Dr. Cunningham, at the time the patient was admitted to his service at the Harlem Hospital Dispensary, and that the latter had also agreed with him in the diagnosis. Dr. Ochs disagreed with the diagnosis of prurigo. In this case, although some of the lesions were confined to the usual sites of a prurigo yet the speaker said he would like to call attention to the lesions on the body, which were never seen in prurigo. He stated that the lesions began as little, flat topped, dark purplish papules, which involuted in the skin. He said there were none of the indurated glands in this case that were usually found in prurigo and that this case was contrary in its action to lichen planus, as in summer it did not get worse as the latter affection did, because of an increase in perspiration. Prurigo was rarely seen in winter, and to see a case of prurigo of such an extent in February would certainly be a rare condition.

#### FOR DIAGNOSIS (LUPUS ERYTHEMATOSUS DISSEMINATUS?). Presented by DR. HOWARD FOX.

The patient, K. M., was a woman 42 years of age, born in Ireland. She presented a mild rosacea from which she had suffered for several years. She had been treated for this affection for about three months with Fowler's solution when the present eruption was noticed. The latter appeared rather suddenly; about three weeks ago, upon the neck, upper part of the chest and extensor aspects of the forearms and hands. The lesions were superficial, pea-sized macules and large irregular patches of a moderately bright red color, later changing to bluish. They presented little or no infiltration, slight grayish scaling and were fairly well circumscribed. On the neck the lesions were more elevated and papular in type. There was no oozing. Itching had been present only for the first ten days. The patient was rather thin but appeared to be in good general health. One brother had died of consumption; otherwise the family history was negative. The patient herself gave no history that would suggest a previous tuberculosis.

DR. OCHS said he agreed with the diagnosis made by the exhibitor of the case.

#### MULTIPLE KELOIDS ON BOTH EARS. Presented by DR. OCHS.

The patient was an adult negress, who thirteen years ago had had her ears pierced for ear-rings. One month after this she noticed a small

keloid developing on the right ear, and was operated upon one year later. The year after this she had another operation, and then for five successive years she had five operations for the purpose of ablation. Four years previously she had had forty-five treatments with the X-ray, and this had resulted in no benefit. When she was presented there were two massive keloids, one on each ear. The keloid of the right ear hung down at least two inches, and was a hard polished mass. Both keloids radiated over the lobes of the ear in fan shape.

DR. MACKEE said that he did not believe that radiotherapy would be of much service in this case as the keloid was too large. He suggested that the growth be again ablated and then one or two doses of 5 Holzknecht units of a Benoist 6 or 7 ray be applied as a prophylactic measure.

DR. KINCH said he had a case of a young white girl, shown in the Society some time ago, where there were multiple keloids of both hands following severe burns. He turned her over to the X-ray department at Lebanon Hospital and the radio-therapist at that place told him that after a year's treatment the keloids were involuting and there was much softening of the masses.

#### EPITHELIOMA OF LEG AND THIGH. Presented by DR. PISKO.

The patient was a female adult who had had an epithelioma of the left leg and thigh of four years' standing. One lesion was the size of a silver dollar, almost an inch deep at one time. The speaker stated that after it had been curetted and cauterized very deeply with an application of scarlet red, the lesion had greatly diminished in size, and it was because of the good results obtained under this treatment that he showed the case to the Society, and also because of the most unusual site at which the epithelioma occurred. At the time of presentation there was only a small mark about the size of a finger nail to be seen.

#### ANNULAR SYPHILIDE. Presented by DR. PISKO.

This patient was a negro woman. The doctor said that at first glance it looked like a case of ringworm, especially the lesions that appeared on the lower lip and also on the right and left side of the mouth. The infection occurred the September before presentation to the Society. On investigation there could be seen very beautiful patches of lesions of the annular syphilide type. The condition was also present on the genitals.

#### LATE HEREDITARY OSTEITIS AND PERIOSTITIS SYPHILITICA. Presented by DR. PISKO.

The patient was a negress, 13 years of age. She stated that she had had the lesions for five months previous to her presentation to the Society. How true this statement was Dr. Pisko said he did not know. The lesions were more or less necrotic at their base and painful to the touch. They existed on both tibiæ, and one of the tibiæ was markedly

deviated. A Wassermann test had been made by Dr. Fox and it was strongly positive.

PITYRIASIS RUBRA PILARIS. Presented by DR. OCHS.

Dr. Ochs had presented this case, a male adult, at a previous meeting of the Society in 1912. After that time, in about two months' treatment the patient's skin was pretty nearly clear, but had relapsed when presented. There was a marked eruption on the back, chest and arms and legs, also some lesions on the penis. It was stated that the patient was the driver of a bakery wagon, and that exposure to the cold, in such an occupation, rendered the condition worse; the patient said he would notice his condition getting better if he stayed where it was warm. At this last presentation lesions were also beginning to show on the soles of the feet.

Dr. Ochs said the patient had been treated with a salicylated oil and arsenic. The arsenic was given hypodermatically in very small doses, every other day, about  $\frac{1}{20}$  of a grain, but the patient was unable to continue this treatment and was taking 10 minims of Fowler's solution. This was the first case, Dr. Ochs said, where he saw pityriasis rubra pilaris lesions on the penis, and he could find no mention of such in the literature.

DERMATITIS PAPILLARIS CAPILLITII. Presented by DR. PISKO.

The patient was a male negro, and presented some typical lesions of this affection on the back of the neck.

Dr. MacKEE said that this case could be cured with absolute certainty by means of radiotherapy, but it would require a large amount of ray. He thought that the lesions would respond to about 30 Holzknicht units divided into 6 treatments over a period of from 4 to 6 months.

CASE FOR DIAGNOSIS. Presented by DR. BLEIMAN.

As this patient was observed for the first time on the day of presentation, a tentative diagnosis of lupus erythematosus was ventured. The patient, a female adult, 55 years old, stated that about one year previously a few small discrete papules appeared behind the left ear. These papules became inflamed, broke down and after three months finally healed, without treatment, leaving a fine parchment-like scarring. The latter, though faintly visible, was readily distinguishable from the surrounding healthy skin.

Five months before presentation other lesions of the same type appeared on the left cheek. There were about fifteen distinct papules, the surrounding skin markedly erythematous, with abundant scaling. The

interesting features of this case were the intense degree of inflammation of the papules and the highly inflamed surrounding skin.

#### SARCOMA CUTIS. Presented by Dr. Ochs.

The patient, a small boy, had been shown at the January meeting of the Society. Dr. Ochs said that since then another cutaneous hæmorrhage had occurred, extending from the nape of the neck to the small of the back both anteriorly and posteriorly, and that there was a lesion developing on the left side of the neck. He stated that he was again showing the case because of the marked improvement of the condition under arsenic, although in these cases arsenic was usually contraindicated. He had given the patient a very small dose of arsenic in the form of Fowler's solution, and almost from the beginning of this treatment the lesions improved. He said that the patient was able to go to school, and was feeling much better than when he last presented him. The tumor masses on the back seemed less elevated, were no longer sensitive to the touch, and were painless. The glands of the neck were smaller and the patient was brighter and more cheerful.

Dr. HOWARD FOX said that although there was a general improvement of the condition he thought he did not see any great reduction in the size of the glands.

Dr. OULMANN said that after seeing the microscopical section at the last meeting he regarded the case not as a plain sarcoma, but as an angio-endothelioma. He advised the use of arsenic and thought that selenium might be tried.

Dr. WISE stated that he thought it would be a very good plan to give this patient arsenic injections of much greater intensity than Dr. Ochs was at the time giving him. He believed that the disease resembled Kaposi's idiopathic hæmorrhagic sarcoma, clinically and microscopically.

Dr. KINCII said he would not increase the arsenic in this case, as in all sarcoma it was contraindicated. As the patient was doing well under the small dose he was getting, the speaker said it would be unwise to force treatment by giving a larger injection.

#### CASE FOR DIAGNOSIS. Presented by Dr. Ochs.

M. B., aged 59, male, blacksmith by occupation, had a burn on the back of the right hand, about 16 months previously; this healed in a few days, and when just about healed the patient scratched it.

In a short time a lesion appeared surrounding the burned area. It began as a small, slightly reddened, slightly elevated nodule, which caused no pain or itching. This spread rather slowly, and at the time of presentation there was a lesion irregular in outline, taking in the greater part of the back of the hand and almost the entire width of the wrist. The lesion was sharply defined and was erythematous. The outer edges were raised and presented small pin-point to larger sized tumefied elevations. The tendency of this tumefied mass was to be thick at the free

border and to gradually grow thinner at the centre. On the outer, left side of the lesion there were none of these tumefied masses, but in their place there were a number of small verruca-like elevations, varying in size. These were fairly soft to the touch, while the larger masses were more rigid. The whole appearance of the lesion was that of a worm-eaten area. The color of the larger masses was deeply violaceous, while the smaller verruca-like fleshy ones were more of a pinkish color. There had never been any subjective symptoms, no pain, no itching, and at no time bleeding or pus formation. The case was presented as possibly a blastomycosis or a tuberculosis verrucosa cutis. No microscopic examination had been made.

DR. MOUNT said that the lesions in this case looked to him as being possibly tuberculous.

DR. MACKEE said that he did not believe a diagnosis could be established in this case without bacteriological and histological study. From a clinical standpoint the speaker thought that the miliary abscesses, the character of the scarring and the vegetations would suggest blastomycosis. He would expect more of a verrucous element in tuberculosis verrucosa cutis.

DR. HOWARD FOX thought that it was almost impossible to make a clinical diagnosis in this case. A microscopic examination would be necessary. While he did not think there were many cases of blastomycosis in New York, he thought, however, that a few cases were possibly overlooked even by the pathologists. In his own experience he had seen only two cases of this disease in New York City, one of which his father had shown at the International Congress. In this case the diagnosis of blastomycosis had been made by a colleague and a histological section made in a laboratory. According to the report, no blastomycoses were present. When the patient came under Dr. Fox's care he had another section made (by Dr. Elizabeth Jagle), who found the organisms without difficulty.

DR. OULMANN said that some time ago he had had occasion to present to the Society a case of blastomycosis. He said he found here the same soft papular elevations, while in tuberculosis verrucosa cutis the margin of the lesion was harder, of a violaceous hue and not as highly inflamed. He said it was easier to find the double contoured bodies in the smear than to demonstrate them in a section of a culture.

#### FUNGATING EPITHELIOMA (OR SARCOMA). Presented by DR. BLEIMAN.

The patient was a male adult, 55 years of age. He had been born in Italy but had been living in the United States for 23 years. His occupation was that of a street-sweeper. In June, 1911, he was operated on for a "growth" involving the right side of the roof of the mouth. This section of the upper jaw was removed, leaving an opening communicating with the nasal cavity. In February, 1912, the left lower jaw became painful and swollen. The swelling rapidly increased and to such an extent that surgical interference was refused. At the time of presentation he had an enormous fungating mass suspended from the left side of the lower jaw. The mass was distinctly globular, fully 8 inches in diameter,



and weighed approximately 2 lbs. The patient was markedly cachectic and losing ground rapidly.

DR. SATENSTEIN said he did not see why this case was classified as an epithelioma, when it had all the classical appearances of a fungating sarcoma. There was no evidence of breaking down as one expected to see in an epithelioma of the size that the tumor mass presented. There were no pearls to be seen anywhere along the margins. The base of the mass was composed of connective tissue pure and simple. The original condition for which the patient was operated upon was in all probability a sarcoma of the jaw extending into the antrum.

#### SEBORRHOEA OF THE LIP. Presented by Dr. Ochs.

The patient was a girl, 20 years of age, and had this condition ever since she could remember as a child. Dr. Ochs said he could find nothing else except a seborrhœa which had probably been kept up by the moisture of the mouth. He stated that some dermatologists who had seen this case called it lupus erythematosus. Though there was apparent atrophy of the lower surface of the lip he said he would call it seborrhœa. The condition improved in the summer and got worse in the winter time. The lesion was confined strictly to the mucous membrane of the lip and did not extend beyond the vermilion border.

Dr. Ochs said this patient also had a marked seborrhœa of the scalp and backs of the ears.

DR. WISE said he would not call it seborrhœa, but an ordinary eczema of the lips. He saw no evidences of lupus erythematosus.

DR. OCHS, in answer to Dr. Wise, said there were no rhagades present, nor thickening of the lips, both of which would be expected in an eczema of such long duration.

DR. HOWARD FOX said that in cases of this nature there was great difficulty in determining whether there was an atrophy existing or not.

DR. KINCH said he believed he saw pits of atrophy along the lower border of the under lip in this case. The long duration of the case, the gradual extension of the lesions and the slight impression that treatment made upon them would incline him to the diagnosis of lupus erythematosus.

DR. SATENSTEIN would not accept the diagnosis of the exhibitor. The condition was present for a number of years and in one area just above the vermilion border there was distinct though not very pronounced atrophy. If the diagnosis of the exhibitor was correct, Dr. Satenstein could not then understand the presence of this atrophy.

#### EXTRAGENITAL CHANCRE. Presented by Dr. Ochs.

The patient was a male adult and had an initial lesion of the lower lip. This he had received in a scuffle by being hit on the lower lip in a fist fight. When presented to the Society the lesion was almost healed and had been treated by Dr. Ochs with salvarsan.

NÆVUS PIGMENTOSUS UNILATERALIS. Presented by DR.  
HOWARD FOX.

The patient, W. le G., was a man 36 years of age, born in the United States. He suffered from scarlet fever when six years of age. About six months later he noticed a dark spot upon the left thigh, the size of a half-dollar, which gradually spread and attained its maximum in three or four years. It had never been attended by any subjective symptoms. The family history was negative.

Examination showed a sheet of pigmented skin of a light brownish-yellow color. It occupied the antero-lateral aspect of the left thigh for its upper third, and the greater part of the left buttock, the height of the patch being at the line of the anterior superior spine. The greater part of the lesion was a solid sheet, though upon the borders were discrete pea to bean sized macules tending to coalesce. It was mostly devoid of hair, but upon the lower portion the growth of some fairly stiff hairs was more profuse than that upon the opposite leg. The hair of the scalp was brown, as was the iris.

DR. MACKEE considered the case to be one of an anomaly of pigmentation. Whether or not it could be considered a nævus depended upon how broad a view was held in regard to nævus. Pathologists were likely to refuse to designate a lesion as a nævus unless nævus cells were found in the microscopical sections. On the other hand, many clinicians called the various congenital anomalies of the skin nævi. The speaker was in accord with Dr. Fox's diagnosis of nævus unius lateris.

EPITHELIOMA OF THE LEFT EYELID. Presented by DR.  
PAROUNAGIAN.

The patient was a male, aged 52, born in Russia, married. He stated that about one and one half years ago he had a wart-like growth on the left eyelid, which a doctor in Russia curetted; but the lesion returned and progressed vigorously, and the result was a total destruction of the left lower lid. The Wassermann reaction was negative.

DR. MACKEE said that this was very decidedly a case for radiotherapy, especially if the lesion had not been subjected to X-ray treatment for some time. He would suggest applying one dose of 6 or 7 Holzknecht units of a Benoist 6 ray. This would possibly result in a complete cure. If the case were improved but not cured a second dose would be indicated. If no improvement occurred within a month of the first treatment, then surgical measures should be resorted to. By this method no time would be lost and no harm done.

NÆVUS UNIUS LATERIS. Presented by DR. HOWARD FOX.

The patient, Beatrice L., was a girl 13 months old, born in the United States. The lesions had appeared when the child was two months old. No similar condition had been noted in any member of her family. The lesions consisted of linear and patchy areas, slightly elevated above the

surface of the skin. They were of a light brownish color, papillomatous in character and strictly unilateral. There were three patches on the right side of the neck, one behind the ear, one upon the supra-scapular region and one below the sterno-clavicular joint.

DR. GOTTHEIL said he thought this case could be cured without appreciable scarring by the cautious application, with light pressure, of the solid carbon dioxide.

#### GUMMATOUS PERIOSTITIS IN A HEREDITARY SYPHILITIC.

Presented by DR. OCHS.

The patient was a boy, aged 14 years. He had lesions on both legs which were "sabre legs." Dr. Ochs said he had seen this boy only once or twice previously, and that the history which he had obtained was very vague. There were ulcerating gummata on both shins; the lesions had been existing for about two years. Other stigmata, as rhagades around the mouth and a flattened nose were present.

#### CASE FOR DIAGNOSIS (SERPIGINOUS ULCERATIVE SYPHILIDE?). Presented by DR. OCHS.

The patient, a small negro boy, presented upon examination a typical ulceration, about two and one half inches in diameter, situated over the anterior aspect of the left leg, at about its middle. The ulceration had sharply defined edges, but looked as if it were formed of folds of tissue loosely thrown together. There was no necrosis of the centre and no apparent inflammation around it. He also presented a serpiginous, gummatous-like ulceration of the hip. One year previous to presentation to the Society he came to the Harlem Hospital Dispensary with a circular lesion, but much smaller, situated on the same site as this one. Dr. Ochs had given him internal treatment of calomel and externally mercury ointment, and this freed him from his condition. The lesion existing at the time of presentation had come on one month previously.

DR. MACMURTRY said the condition did not have the appearance of syphilis in his opinion, but the lesions looked rather like those found in tuberculosis cutis verrucosa.

DR. KINCH said he was inclined to accept the diagnosis of the speaker, although it looked to him, on the superficial examination, somewhat like papular eczema.

DR. GOTTHEIL said tuberculosis, blastomycosis or a bromoderma were the affections he would think of rather than syphilis in any form. The microscope, he stated, ought to clear up the diagnosis as to the first two, fairly readily.

DR. MACKEE said that the vegetating character of the lesion was suggestive of a bromide or iodide rash. A microscopical examination for the blastomyces should also be made.

DR. OCHS said when he saw the case a few days previous to presentation, the lesions were much larger than when presented. He stated that the patient had received wet applications of bichloride, 1-5000. The child was being treated along the lines of a syphilitic entirely and was apparently improving.

## CASE FOR DIAGNOSIS. Presented by DR. HOWARD FOX.

The patient was a young woman who had been presented at the last meeting as a case for diagnosis. The appearance of the patches at that time had suggested the possibility of an acute lupus erythematosus disseminatus. In the meantime, however, the eruption on the neck and arms had entirely disappeared. It seemed possible that the affection was some unusual type of drug eruption as the patient had been treated several months with arsenic and other remedies for rosacea. At all events, the diagnosis of lupus erythematosus seemed out of the question.

DR. GOTTHEIL said he did not think that the mere fact that the eruption had almost disappeared during the last month was a decisive argument against the diagnosis made at the last meeting. Disseminate lupus erythematosus, he said, was a rare disease, and we did not see enough of them to be well versed in their symptomatology and course. Dr. Gottheil made the same diagnosis only a week previously in a case that resembled the picture that this patient presented when first shown.

DR. OULMANN said that in the literature there were cases of lupus erythematosus disseminatus cited, which disappeared without treatment of any kind.

## LUPUS ERYTHEMATOSUS, TREATED WITH CARBON DIOXIDE SNOW. Presented by DR. WISE.

The patient was a female adult who presented the typical bat-shaped lesion of the disease on the nose and cheeks. She was shown to illustrate the excellent results produced by the application of the solid carbon dioxide snow.

DR. HOWARD FOX said he had a case somewhat similar under observation, which he thought could be included under the title of nodular lupus erythematosus described by Crocker. The diagnosis in his case was apparently confirmed by the clinical appearance of some recent patches and by a histological examination.

DR. MACKEE said there was certainly the condition of lupus erythematosus present and that he also regarded it as one of the nodular type of Crocker.

## STRIÆ ET MACULÆ ATROPHICÆ. Presented by DR. WEISS.

The patient was a female adult, 35 years of age. She presented lesions on the chest, breasts, abdomen and back. These were fairly large, somewhat depressed, slightly scaling at the margins, and arranged almost in parallels, having a white glistening appearance. At the throat and clavicular region, maculæ of variable size could be observed with the same characteristics as the striæ.

DR. MACKEE said there was evidently a macular atrophy present, but that he failed to see any linear lesions.

DR. OULMANN said in macular atrophy there was usually a general whitening of the lesions, with or without the red margin, but that Dr. Weiss' case, to him, looked very much like those belonging to the class described by Oppenheim as anetoderma.

DR. WEISS said he presented the case because of the marked scaling of the lesions, which was a rather unusual feature of this disease, the scales adhering to the margins. The maculæ presented a violaceous border and showed the same peripheral furfuraceous desquamation as the striæ. He stated that the patient was very neurotic and in the absence of any other pathological factor, believed the condition might be attributable to a neurotic element.

ACNE INDURATA. Presented by DR. KINCH.

The patient was a young man, 17 years of age. He presented a patch of extensive lesions with scars of deep ulceration. These acne lesions had comedones and cicatrices. They were situated between the shoulders. The case was exhibited on account of the extensive destruction of tissue, produced by the disease.

PAPULO-PUSTULAR SYPHILIDE WITH ANAL CHANCRE. Presented by DR. KINCH.

The patient was a male adult, aged 18, who had an eruption which Dr. Kinch presented as the ordinary manifestation of lues. The lesions started three or four weeks previous to presentation. Two months previously, the patient noticed a papule near the anus, spreading into an elevated patch. When shown, this was sclerosed and fissured, extending two thirds around the anus.

DR. GOTTHEIL made a plea for a more exact terminology in these cases; he said this one was presented with the title of "lues," which was not sufficiently descriptive; the patient presented a pustulo-crustaceous syphiloderma, with the scar marking the site of the anal chancre.

DR. GEORGE HENRY FOX said that, while the papulo-pustular syphilide, a combination of papules and pustules resulting from a softening of papules was frequently met with in the clinic, the true pustular syphilide was extremely rare. As the papular syphilide was divided into three types, the miliary, the lenticular and the discoid papular syphilide, so the speaker would divide the pustular syphilide into three corresponding types, viz., the acuminate, the obtuse and the ecthymoid pustular syphilide, types often called acneiform, varioliform and ecthymaform. The case presented he would call an obtuse pustular syphilide. Dr. Fox said he agreed with Dr. Gottheil that we ought to avoid a careless use of terms in the description of syphilides. He remarked that if the names under the illustrations in many text books were covered, all would be able to recognize their syphilitic nature, but few would use the same name. He stated that teachers and writers should be more strict in the observance of uniformity, not only for their own convenience but for that of students in dermatology.

DR. BLEIMAN said he himself had presented two cases and Dr. Pisko three, which he thought were like this case, a papulo-pustular secondary syphilis. He said that in his observations of rectal chancres he noted the recurrence of papulo-pustular syphilides as a secondary lesion, and with greater frequency than the development of the maculo-papular type as a secondary manifestation in such cases. In the cases spoken of, all were papulo-pustular, and the probable explanation, he said, might be found in the greater susceptibility of mucous surfaces to these lesions, hence the development of a more severe type of secondary lesions.

DR. KINCH said that the patient had been under observation four weeks and that the papulo-pustular eruption was of a more recent date. When he first came under notice there were just ordinary papular lesions around the anus. The speaker stated that he had given the patient his first mercurial injection three days before his presentation. Three weeks previous to the appearance of the first lesion the patient had been the victim of pederasty.

DR. OCHS said that he agreed with Dr. Bleiman. He stated that he had presented two cases of the same nature as this one and both were papulo-pustular. He believed that in rectal lesions the macular type did not predominate, but that the pustular syphilis was predominant and ran a severe course.

#### ERYTHEMA INDURATUM. Presented by DR. OCHS.

The patient, Mrs. C., aged 41, presented grouped lesions on the outer side as well as on the anterior aspect of the lower third of the left leg, and a few infiltrated nodules on the lower third of the right leg. These lesions began to appear about two years previous to her presentation, since which time the patient had never been free and the lesions had always been confined to the lower part of the legs. They caused no discomfort, no itching and but slight pain preceding the appearance of a nodule. Pressure over a nodule would cause slight pain.

Examination showed a number of dark bluish-red, slightly infiltrated, elevated papules which had coalesced to form a patch about one inch in diameter on the posterior aspect of the leg, while anteriorly a few disseminated, dark, infiltrated nodules were present. These nodules were very slow in developing and showed a tendency to central necrosis or breaking down. The original lesions appeared as hard infiltrated nodules, which could be palpated deep in the skin and which were preceded by slight pain. This nodule would slowly come to the surface and assume a dark color. In some, slight ulceration would take place while others remained hard, large, dark-bluish papules.

DR. GOTTHEIL said that in late years these cases had become quite common; that they were probably quite as frequent in years gone by, when this diagnosis was not made.

#### PLANTAR SYPHILIDE. Presented by DRs. MACKEE AND WISE.

The patient, who was from Dr. Fordyce's clinic, was an unmarried man, 28 years of age. He contracted syphilis 9 years ago. Although he received only small doses of mercury, internally administered, for a few months subsequent to the appearance of the macular exanthem, he had been free of syphilitic manifestations until 8 months ago, when the plantar eruption developed. When presented to the Society, the plantar surface of the left foot was the seat of an extensive tuberculo-squamous eruption. Thick, dry, scaly patches covered the entire plantar surface. The eruption extended on to the outer surface of the foot where it terminated in a well-defined, scalloped border. Nodules could be detected between the squamous patches and also on the outer surface of the foot beyond the

scalloped border. There were several fissures on the sole, which caused pain while the patient was walking. An interesting feature of the case was the presence of annular, pigmented lesions in the neighborhood of the outer malleolus. It could not be definitely ascertained whether or not these lesions were the result of previous lesions of a different character. The right foot was normal and there were no lesions on any other part of the body. The Wassermann reaction was positive.

ANNULAR LICHEN PLANUS. Presented by Drs. MacKee and Wise.

The patient, who was from Dr. Fordyce's clinic, was a male adult. The duration of the eruption was six months. The patient exhibited three annular lesions on the flexor surface of each forearm, ranging in size from  $\frac{1}{4}$  to  $1\frac{1}{4}$  inches in diameter. The margins of the lesions were composed of coalesced, violaceous, smooth, flat-topped, polygonal papules. There was slight pruritus. The condition had improved somewhat under the internal administration of the protiodide of mercury.

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REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

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JAHRBUCH FÜR KINDERHEILKUNDE.

(Feb. 1, 1913, lxxvii, No. 2.)

Abstracted by HARVEY PARKER TOWLE, M.D.

THE SKIN REACTIONS OF CHILDREN WITH EXUDATIVE DIATHESIS. E. RACHMILEWITSCH, p. 176.

As the first manifestations of an exudative diathesis are in the skin, it is important that the effects of various irritants should be studied. In the predisposed, the small insults to which every infant is exposed, are said to set up an exudative process which is harmful to the surrounding epithelium.

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As a result of experiment, the writer concludes that chemicals alone do not produce a characteristic reaction. Mechanical stimuli also failed. He next combined the two. Scarifying the skin, mustard was bandaged on the wound for half an hour. This time the results were successful. Children with exudative diathesis reacted positively. The others did not. The reaction was as pronounced in children whose only symptoms of the diathesis were, for example, geographical tongue or pharyngitis, as in children with a greater number of symptoms.

The positive reaction is described as wheal formation, serous exudate, slow coagulability of the exudate and long duration of the symptoms. The reaction was negative in 20 per cent. of the cases, usually in children with a tendency to a "pasty habitus." In fat, over-fed children, the reaction was frequently strongly positive even when they had shown no clinical symptoms for months. Of 20 new-born, 4 gave a positive reaction. From this, the conclusion is drawn that the exudative diathesis is an inherited, constitutional anomaly.

(*Ibidem*, Aug. 3, 1912, lxxvii, No. 2.)

### THE EXANTHEM AND CONTAGION OF MEASLES. ERICH GOETZE, p. 205.

Goetze's thesis lies in his brief statement of von Pirquet's theory. According to the latter, measles is, theoretically, analogous to variola in that agglutinating antibodies are found in both, to appear in the blood about ten days after the infection. The antibodies digest the specific microorganisms. The process splits off a toxic substance, "apotoxine," whose action upon the central nervous system produces the fever and its action upon the skin and mucous membranes the ex- and enantheams. In measles, formation of the virus proceeds most actively during the latent and prodromal periods, the periods when the disease is most infectious.

In argument, Goetze names a number of diseases in which the eruption and the temperature curve are "measles-like": variola, serum-sickness, Weil's disease, vaccination and Rocky Mountain fever are all said to have a typical measles-eruption, approximately the same incubation time (ten days) and, clinically, the same temperature curve.

Goetze injected 1 ccm. of defibrinated blood, intravenously, into a ten-months-old pig. Nine days later an eruption developed with rise of temperature and pulse and acceleration of respiration.

The conclusions are drawn that measles is only a symptom of disease due to "apotoxine"; that its agent is not specific but is common to several diseases; that possibly these diseases belong to one large family; and that their symptoms vary, with the variations in the conditions under which they occur.

## ARCHIVES OF PEDIATRICS.

(May, 1913, xxx, No. 5.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### PRESENT-DAY OPINIONS OF THE VALUE OF THE SO-CALLED INCLUSION BODIES IN SCARLET FEVER. MATTHIAS NICOLL, JR., p. 346.

Dr. Nicoll comments upon present-day opinions of the significance of inclusion bodies on the basis of his own studies at the Research Laboratory of the New York Board of Health.



His first criticism is of the readiness of some to accept the presence of inclusions in a few leucocytes, among a large number examined, as evidence of scarlet fever. Nicoll considers the conclusion wrong. A few inclusions are not infrequent in a number of other diseases. A certain abundance of them is therefore necessary.

He next condemns as dangerous the practice of making the diagnosis from the smears alone, without clinical data. In Dr. Nicoll's experience, a small percentage of true scarlet fever cases may be negative. Also, he does not believe it always possible to differentiate sepsis from scarlet fever by the blood picture, any more than it is invariably possible by the clinical symptoms.

There is a streptococcus angina of the tonsil which is almost, if not quite, indistinguishable from the angina of scarlet fever either by clinical signs or by the blood. Such cases usually suggest diphtheria clinically and are often treated by antitoxin. Until absolutely excluded, Nicoll would regard these as atypical manifestations of scarlet fever. This conclusion is of interest in connection with the argument that scarlet fever is merely a symptom of an anaphylactic state resulting, under certain favoring conditions, from streptococcic invasion of the tonsils.

Before the fourth day, inclusion bodies may mean scarlet fever, sepsis, or severe streptococcus angina. A negative result excludes scarlet fever. In diphtheria, after the administration of antitoxin, inclusions before the seventh day are not diagnostic; after the seventh day, they are suspicious.

#### THE TREATMENT OF SCARLET FEVER WITH INTRAVENOUS INJECTIONS OF NEOSALVARSAN. LOUIS FISCHER, p. 352.

Lenzmann, Schreiber, Klemperer and Woita have reported beneficial results in scarlet fever from the use of salvarsan. They have attributed to the drug a decided antipyretic effect, exfoliation of necrotic membranes and convalescence with avoidance of fatal complications. In addition, Luksch found that intravenous injections of salvarsan arrested or greatly retarded the progress of streptococcic and staphylococcic infections.

Fischer selected five cases for trial, all of which were septic and of fatal prognosis. In three, the Wassermann reaction was negative, in one probably positive, in one unknown. The dose was 0.2 gram dissolved in 40 cc. of plain, sterile water. The jugular vein is the best for the injection, as it is larger and more accessible than the median basilic. Three cases died within one to six days after the injection. One case was still in the hospital, but in grave condition. One case was convalescing and was soon to be discharged.

#### THE RESULT OF RECENT RESEARCHES INTO THE ÆTIOLOGY OF MEASLES. JEROME S. LEOPOLD, p. 356.

A short review of a few articles.

### UROLOGIC AND CUTANEOUS REVIEW.

(January, 1913, i, No. 1.)

Abstracted by FAXTON E. GARDNER, M.D.

#### MALIGNANT SYPHILIS. MARSHALL, p. 68.

Malignant syphilis is rare in Europe. It must be distinguished from syphilis that runs a severe course owing to previous debilitation of the body and of early tertiary ulceration. Malignant syphilis is frequently observed in robust

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men. It is possible that it is seen particularly in subjects whose ancestors have been most free from the disease. It may be due to a special strain of spirochætæ, though there is no direct evidence on this point. Spirochætæ are scarce in the lesions of malignant syphilis. The prognosis is on the whole fairly good, although the disease may cause much destruction of tissue before it is cured. In fact, it appears to have a greater natural tendency to cure than other forms of syphilis; this may be because the virulence of the disease is exhausted in its early stages. The treatment is tonic and stimulatory rather than antisyphilitic.

### THE CHEMOTHERAPY OF EXTERNAL TUBERCULOSIS. STRAUSS, p. 84.

Strauss has tested in animals 1/1000 solutions of methylene blue, with 50% of very noticeable curative results and one perfect cure. He has also used several preparations of copper salts, aqueous solutions of copper chloride or tartrate (0.25 to 4%) or oily emulsions of copper cinnamate. The last were better tolerated locally. A combination of lecithin and copper salts, used lately, caused hardly any reaction at all. In all cases a considerable prolongation of life was obtained.

Three cases are reported in human beings: 1. Lupus of the right arm. First, injections of 3 to 6 cc. of iodine methylene blue subcutaneously, then twice weekly, ½ cc. of 1% solution of copper chloride. Later, copper potassium tartrate ointment was added locally. Complete cure resulted in 11 months. 2. Lupus of the neck and tubercular laryngitis. Intramuscular injections, twice weekly, of ½ cc. of an emulsion of copper potassium tartrate with 10% lecithin. Internally, methylene blue in capsules. Locally, painting with copper potassium tartrate in traumaticin. Considerable improvement and retrogression of infiltrations was obtained, both in the larynx and on the skin.

The third case pertains to a tuberculous abscess and fistula which were cured.

### ÆTIOLOGY AND ÆTIOLOGIC THERAPY OF ECZEMA FROM A CHEMICAL BASIS. LUTIMEN, p. 97.

By his experiments the author believes he has given the first scientific proof of the old empirical notion that nutrition, diet and internal treatment are important. The general aim of the treatment is enriching the system in bases and increasing their retention. This is effected by a vegetable diet.

### CONTRIBUTION TO THE STUDY OF PITYRIASIS RUBRA PILARIS. VIGNOLO-LUTATI, p. 102.

Milian has ably put forward the hypothesis of a tuberculous origin for pityriasis rubra pilaris. The case described by the author in 1906 and seen again by him in 1911, is decidedly negative to all the tuberculous tests known. The writer considers this dermatosis as a keratosis resulting from multiple toxic influences, among which tuberculosis may find its place.

### DERMATITIS VEGETANS. WOLFF, p. 105.

A brief review of the contradictory opinions held about this condition, and report of a case in a boy 8 years old.

### A NEW METHOD OF APPLYING CARBON DIOXIDE SNOW. SIBLEY, p. 110.

If solid carbon dioxide be added to ether or absolute alcohol, the ether at first effervesces violently, but in a few seconds, if enough snow be added, a

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colorless gelatinous mass is obtained. This is a fairly stable preparation which can very conveniently be applied to any skin lesion with a camel's-hair brush or with a swab of cotton wool on a wooden or other non-conducting holder. With this method superficial lesions can be dealt with, but no great amount of pressure can be exerted, as is needed in deeper lesions. But for superficial lesions, the method is far superior to those formerly adopted. No special apparatus is needed, save a cylinder of carbon dioxide, a porcelain dish and a camel's-hair brush.

(*Ibidem*, February, 1913, No. 2.)

### THE GENITAL LESIONS OF DIABETES WHICH SIMULATE VENEREAL DISEASE. WHITNEY, p. 59.

The author reports three cases of lesions closely simulating hard chancres or ulcerated gummata; others resembling chancrelids; also a case of pseudo-gonorrhea, and some of balanitis and phimosis. All of which were cured only when the diabetic condition was recognized and proper dietetic treatment instituted.

### ABNORMAL TUFT OF HAIR AND PLICA NEUROPATHICA. SIBLEY, p. 78.

The abnormal tuft was located in the sacral region, in a girl 11 years old; no spina bifida was present.

(*Ibidem*, March 1, 1913, No. 3.)

### ON THE PATHOGENESIS OF SALVARSAN FATALITIES. WECHSELMANN, p. 11. (*To be continued.*)

### ADVANTAGES OF BENZOATE OF MERCURY. SWEENEY, p. 140.

A warm eulogy of a solution of benzoate of mercury, freshly prepared, in lymph obtained from the thoracic duct of a recently slaughtered healthy bullock, and administered subcutaneously, not intramuscularly.

## AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(June, 1913, cxlv, No. 6.)

Abstracted by R. C. JAMIESON, M.D.

### THE OCCURRENCE OF CANCEROUS CHANGES IN BENIGN NEW GROWTHS OF THE SKIN. R. L. SUTTON, p. 819.

In this article Sutton discusses the views of others on the question of cancerous changes and reports two cases. The first of these had a large number of wartlike growths on the face, neck and chest. These were later found to be acanthoma adenoides cysticum. Treatment had consisted of curettement, cauterization, electrolysis and X-ray, but a small cystic tumor near the eye developed, ulcerated and was clinically epithelioma.

The second case was the daughter of the preceding and had a similar condition. One papule had ulcerated and appeared as a typical rodent ulcer. Biopsy of excised papules showed epithelioma. The papules were treated with carbon dioxide snow with good results.

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From his studies Sutton believes that the lesions are embryonic in origin, that certain conditions of the skin predispose to these attacks and that these conditions may be due to heredity.

(*Ibidem*, April, 1913, cxlv, No. 4.)

### SOME HÆMATOLOGICAL FINDINGS IN PELLAGRA. O. S. HILLMAN.

Hillman's observations are drawn from blood counts made of specimens received from South Carolina.

He concludes that a varying degree of chloranæmia usually exists with pellagra, but not to a marked degree, the hæmoglobin and red cells falling somewhat below normal. The leucocytes appear to be increased and there is a lymphocytosis, but he could find no characteristic variation in the large mononuclear leucocytes and eosinophiles.

## BULLETIN OF THE JOHNS HOPKINS HOSPITAL.

(June, 1913, xxiv, No. 268.)

Abstracted by R. C. JAMIESON, M.D.

### EXCESSIVE THICKENING OF THIERSCH GRAFTS CAUSED BY A COMPONENT OF SCARLET RED (AMIDOAZOTOLUOL). J. S. DAVIS, p. 178.

Davis does not believe that any unfavorable results following the use of this preparation can be entirely due to the dye, as it is not suitable to every wound but will in most cases cause an epithelial stimulation. He warns against its indiscriminate use and states that if an overgrowth of epithelium occurs, a normal appearance follows discontinuance of the dye.

He cites the history of a case in which this occurred, thickening appearing only when the dye was applied. This patient was under observation for nearly three years and showed no signs of malignant degeneration in the scar tissue.

## ARCHIVES OF INTERNAL MEDICINE.

(May, 1913, xi, No. 5.)

Abstracted by R. C. JAMIESON, M.D.

### A MODIFIED WASSERMANN REACTION. L. O. THOMPSON, p. 512.

Thompson states that the natural antishcep amboceptor may be a source of error in the original Wassermann, while in the Noguchi test, error may be due to non-inactivated serum, the small quantity of reagents used and the use of a non-specific antigen.

He uses antihuman amboceptor obtained by injecting rabbits and preserving the serum in a .5% phenol solution. A 10% solution of fresh guinea pig serum is used for complement and an alcoholic extract of syphilitic fetal liver is used as antigen. He also employs .1 cc. of patient's serum inactivated for thirty minutes at 55° or 56° C., and 0.5 cc. of a 5% solution of human corpuscles in 0.9% sodium chlorid solution.

In his technique he employs three rows of tubes for sera and controls. In

the front row he places all the reagents in proper amounts, in the back row all the reagents but the antigen and in the second row all but antigen and complement. Incubation is carried on in the usual way, the tubes being shaken every fifteen to twenty minutes during the second incubation, which lasts for one hour. He also uses eight control tubes, each lacking in one or more ingredients.

He claims that it overcomes the disadvantage of natural antishoop amboceptor, that he uses enough serum to assure plenty of antibodies, that the total volume gives a clear-cut reaction and that the control system excludes all error.

The only disadvantages are that the tubes must be shaken during incubation and that a greater number of tubes are required.

## JOURNAL OF EXPERIMENTAL MEDICINE.

(February, 1913, xvii, No. 2.)

Abstracted by R. C. JAMIESON, M.D.

### A DEMONSTRATION OF TREPONEMA PALLIDUM IN THE BRAIN IN CASES OF GENERAL PARALYSIS. H. NOGUCHI AND J. W. MOORE, p. 232.

This is a preliminary report upon the work done with seventy parietic brains. The authors incline to the opinion that paresis must be preceded by syphilitic infection. They also noted the serological similarity in lues and paresis, even though the treponema has not been demonstrable in the latter, the explanation of which may be that the organism may be in some changed form or be in some place not examined.

Of the seventy cases examined, they found the spirochæte in twelve which were typically general paresis, both anatomically and microscopically. There were no gummata found, while spirochætæ were found in all the layers of the cortex except the outer. The organisms seemed to have avoided the blood-vessels and had wandered into nerve tissue. The sections were stained with a modified Levaditi and were taken from the frontal gyrus, left hemisphere and gyrus rectus.

## MEDICAL RECORD.

(Dec. 28, 1912, lxxxii, No. 26.)

Abstracted by LOUIS CHARGIN, M.D.

### REPORT OF A CASE OF LUPUS ERYTHEMATOSUS DISSEMINATUS. A. J. GILMOUR, p. 1160.

### THE PRODUCTION OF MALIGNANT TUMORS FROM THE PARASITES OF THE EARTH WORM. H. D. WALKER, p. 1167.

Walker reiterates his theory as to the causation of malignant diseases. He believes them to be due to parasites found in earth worms. These are deposited by the worms upon vegetables and are thus introduced into the system. He

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adds that since his last report in 1908, he has succeeded in growing tumors (sarcoma) upon grass. These tumors are composed entirely of cells of the parasites.

(*Ibidem*, Jan. 11, 1913, lxxxiii, No. 2.)

REPORT OF A CASE OF PELLAGRA. F. C. ROBBINS, p. 55.

(*Ibidem*, Feb. 22, 1913, lxxxiii, No. 8.)

THE TREATMENT OF DISEASES OF VEGETABLE PARASITIC ORIGIN BY DEEP INJECTIONS OF MERCURY. B. L. WRIGHT, p. 323.

Wright believes that mercury has a chemical affinity for vegetable organisms which he expresses in the formula: (vegetable antigen plus Hg.) plus antibody, plus complement, equals complement fixation (cure). Upon this theory he has experimented with success with various diseases, among which furunculosis alone interests us. Four cases are epitomized:

Case 1. June 9th, three boils incised, drained and dressed. June 11th and 12th, four additional boils similarly treated. June 13th, three new boils developing; 11 A.M., injection mercuric succinimide, gm. 0.104 (gr.  $\frac{8}{5}$ ). June 14th, new boils aborted, pain and tenderness disappeared. June 17th, no new outcropping. The other three cases were similarly favorably affected.

## NEW YORK MEDICAL JOURNAL.

(Dec. 28, 1912, xcvi, No. 26.)

Abstracted by LOUIS CHARGIN, M.D.

SALVARSAN VERSUS MERCURY. E. W. RUGGLES, p. 1313.

A resumé of the literature and personal observation lead the author to the belief that the effect of salvarsan upon the symptoms of syphilis and the Wassermann reaction far excel those obtained with mercury, both as to rapidity and certainty of action. A number of interesting cases are reported in support of his views. One, a case of spinal lues with syphilitic nephritis, refractory to mercury and potassium iodide, was remarkably improved after three "606" injections. But one failure with salvarsan out of forty-three cases treated is recorded. This was a case of ulcerating lesions on the tongue and in the mouth of five years' duration, unaffected, except temporarily, by three salvarsan injections.

(*Ibidem*, Jan. 4, 1913, xcvi, No. 1.)

TREATMENT OF HÆMORRHAGE BY MEANS OF PRECIPITATED BLOOD SERA. G. CLOWES AND F. BUSCH, p. 16.

It is in hæmorrhages due to insufficient thrombin formation that serum has proved itself of value. Such serum is, however, not always obtainable when required in emergency, and preserved serum rapidly loses its efficiency. It was obvious that the difficulty could be overcome by precipitating the fresh serum in the form of a dry powder. This the authors succeeded in doing, using a mixture of acetone and ether as a precipitant. Thus obtained, the product is a friable, anhydrous, sterile, readily soluble powder, containing the desired fibrin ferment in concentrated form. By comparing the rapidity with which sera and solutions of this product cause coagulation of citrated blood plasma, the relative

activity of the powder could be determined. This was found to be 3 to 10 times that of fresh human serum. The preparation retains its active principles unimpaired for long periods of time. (Two years or more.) Satisfactory products have been obtained from both human and animal sera, horse serum especially yielding an active product, superior even to human serum. For a year the authors have worked with preparations derived from horse serum and have obtained clinical results equal to those formerly obtained with precipitated rabbit and human sera. More than 150 cases of hæmorrhage (various types) have been treated with satisfactory results. No anaphylactic reaction has been observed even when repeated injections were made. The greater efficiency of these preparations as compared to fresh serum, they explain upon the theory of absorption. From 0.6 to 0.7 g. (dissolved by shaking for 2 to 3 minutes with cold water) equivalent to 10 cc. of whole serum is advised for use. This may be repeated as often as is necessary; 20 to 40 cc. daily have been given even to infants, for several days. Twenty-one cases are detailed.

(*Ibidem*, Jan. 11, 1913, xcvii, No. 2.)

#### VANADIUM SELENIUM IN CANCER. F. VON OEFELE, p. 78.

The author claims for vanadium selenium ( $Va_2 Se_5$ ), the property of being able to transform carcinomatous tissue into non-malignant encapsulated fibroma. This process is brought about through the oxidizing effect of this preparation.

(*Ibidem*, Jan. 18, 1913, xcvii, No. 3.)

#### THE TREATMENT OF PELLAGRA. ITS PRESENT STATUS. G. M. NILES, p. 116.

The writer details his plan of treatment. There is nothing essentially new.

#### NORMAL HUMAN BLOOD SERUM IN THE TREATMENT OF HÆMORRHAGIC DISEASES OF INFANTS AND CHILDREN. J. E. WELCH, p. 125.

The writer's preference for human serum in the treatment of hæmorrhagic conditions is based upon the absence of anaphylactic phenomena, when serum of the same species is employed. He believes that a disturbance of the ferments in the endothelial cells lining the blood vessels is the immediate cause of the hæmorrhage. This disturbance is due to malnutrition, however brought about. The theory that such hæmorrhage is due to lack of activating substance seems disproved. Since if this were true, we would expect to find a coagulation of the blood in hæmorrhagic areas where serum has been successfully employed, but this is not the case. It seems that the action of the serum is through its nutritional effect, especially upon the endothelium. Several interesting cases with strikingly favorable results are reported.

(*Ibidem*, Feb. 22, 1913.)

#### CONTRADICTIONARY FINDINGS IN THE WASSERMANN TEST. A. L. WOLBARST, p. 378.

The essence of this article is well expressed in the author's conclusions, which are in part as follows. The Wassermann reaction is dependent for its results on the skill and knowledge of the serologist. The results of the test depend in a great measure on the absolutely perfect standardization of the reagents used; these are subject to variation in the hands of different serologists as a result of which diversity in findings is not infrequent. Thus of 37 cases studies for

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discrepancies, agreement of findings took place in 26 (70%); absolute contradictory findings in 5 (14%); slight differences in 6 (16%). The author thinks it an error to accept the findings of one serologist as conclusive, particularly if the result is positive (in a clinically negative case) and the diagnosis dependent on his report.

### SOUTHERN MEDICAL JOURNAL.

(January, 1913, vi, No. 1.)

Abstracted by LOUIS CHARGIN, M.D.

#### SOME ECONOMIC QUESTIONS RELATED TO SYPHILIS. I. DYER, p. 10.

The stir created by the newer discoveries in syphilis has made the subject common knowledge, so that the public is about ready to shake off the mystery of so vicious a condition, and by publicity arrive at a solution of the problem. More systematic control of syphilis is urged. Patients dependent on public funds should be housed until safe from likelihood of infecting others. Hospitals for syphilitics should be established. Their existence, the author thinks, will act as a deterrent rather than as an incentive to vice. Not until the state attempts proper care of those affected can we hope to become free from this menace. While treatment is important, of greater value is the study of the ways and means to educate the profession and the public in the care and prevention of syphilis and its consequences. To some extent this has already been done. He thinks insufficient attention is given the subject in our colleges, and urges a more thorough course.

#### SYPHILIS OF THE EYE. D. ROY, p. 13.

An admirable summary of the syphilitic affections of the eye.

#### SYPHILIS OF THE EAR. N. M. HEGGIE, p. 17.

Heggie considers primary syphilitic cochlear involvement quite infrequent. Whether it has become more common since the advent of "606" cannot as yet be definitely stated. He leans to the view that salvarsan has no deleterious effect on the cranial nerves.

#### SYPHILIS OF THE NOSE AND THROAT. H. H. MARTIN, p. 19.

The writer reviews the subject and calls attention to a point not commonly known. He states that syphilitic erythema avoids the median line when affecting the hard or soft palate or the posterior pharyngeal wall, usually beginning near the median line on either side and extending outward.

#### GUMMA OF THE URETHRA, WITH REPORT OF TWO CASES. W. DEX AND J. KIRBY-SMITH, p. 20.

Two cases of this condition are reported.

*Case 1.* Typical history dating back six years. Treatment insufficient. Gonorrhœa eighteen months previously, which cleared up in four months. Three months ago, a slight urethral discharge was noticed. The patient can feel a slight enlargement posterior to the glans. Examination showed an enlargement one half inch posterior to the glans, with central softening and marked induration. Endoscopy revealed an excavated ulcer of about one half inch. The depth of the ulcer showed that more than the urethral structures were involved.



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Smears were negative to gonococci, tubercle bacilli, bacillus of Ducrey and spirochæta; Wassermann, positive. The process rapidly yielded to salvarsan and Hg. with disappearance of the positive Wassermann reaction.

*Case 2.* History of chancre followed by secondaries ten years ago. Inadequate treatment. Patient had first degree hypospadias. For the past few months, the patient noticed a small lump in the region of the urethra, one half inch behind the glans. One week ago there was a purulent urethral discharge. This was followed by the appearance of an ulcer at the lower angle of the meatus. Smears showed ordinary mixed infection. No gonococci or spirochæta. Wassermann positive. Rapid cure of ulcer without local treatment followed salvarsan injections.

### THE IMPORTANCE OF THE RECOGNITION OF SYPHILIS IN CIRCULATORY DISEASE. J. HALSEY, p. 23.

Statistics are quoted to show the frequency of circulatory involvement in lues. The author especially emphasizes the occurrence of such disturbances in recently acquired syphilis and urges early recognition and treatment.

### EFFECT OF ANTI-SYPHILITIC REMEDIES ON THE WASSERMANN REACTION. WM. LUTTERER, p. 25.

A good review, nothing essentially new.

### HYGIENE OF SYPHILIS. O. DOWLING, p. 29.

The substance of this admirable article is summed up by the author as follows:

The hygiene of syphilis is that of other diseases; from its nature, specific work should be done to enlighten everyone as to its origin and to correct the false notion that it is contracted only in one way. As the prostitute is an agency in the spread of infection, legislation pertaining to sex commerce should be humane, but drastic. Boys and men should be instructed in the means of prevention (the use of condoms, antiseptic washing, etc.). The principles of sex hygiene should be taught as other subjects are, simply and from the point of view of training and environment. The writer thinks that it is possibly by a campaign, properly planned and executed, that the desired object may be attained. Treatment, prevention, isolation, use of antiseptics, a rigid system of reporting, and supervision would do the work.

(*Ibidem*, March, 1913, iii.)

### SCLEREMA ADIPOSUM WITH REPORT OF CASE. J. ROSS SNYDER, p. 169.

### A REVIEW OF 131 CASES OF PELLAGRA. B. E. M. GREEN, p. 171.

An interesting, comprehensive, statistical analysis of the subjective and objective symptoms of 31 cases of pellagra admitted to the Georgia State Sanitarium.

(*Ibidem*, April, 1913, iii, No. 4.)

### EARLY AND UNDEVELOPED CASES OF PELLAGRA. B. TUCKER, p. 232.

Tucker contends that it should be possible to make a diagnosis of early pellagra just as it is possible to diagnosticate early tabes or typhoid in the presence of but a few vague symptoms. The importance of such early diagnosis is

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clear. At this stage it is very amenable to treatment. In the consideration of doubtful cases one must bear in mind the section of the country, the presence of other cases, dietary habits, the season of the appearance of symptoms, the history of previous disturbances and carefully note such symptoms as stomatitis, nausea, diarrhoea, etc., and cutaneous manifestations; also nervous and mental symptoms. A case presenting the majority of these symptoms, however slight, is probably pellagra in the opinion of the author. He finds urotropin, gr. x, four times daily, almost a specific in early cases.

LUETIN SKIN REACTION IN DIAGNOSING SYPHILIS. C. SIMPSON, p. 234.

Observation leads the writer to the opinion that the luetin test, while not superior to the Wassermann, is nevertheless very valuable, especially in the old, obscure forms of the disease.

### UNIVERSITY OF TORONTO MEDICAL BULLETIN.

(December, 1912, i, No. 2.)

Abstracted by LOUIS CHARGIN, M.D.

A PRELIMINARY NOTE ON THE USE OF THYROID IN THE TREATMENT OF ACNE. G. CHAMBERS, p. 47.

In treating cases of simple goitre with thyroid, the author has noted that concomitant acne would likewise be favorably affected. It has been especially effective in the severer forms of acne with associated disturbance of metabolism, the latter apparently acting as a predisposing cause of the acne. He suggests that possibly the thyroid tends to correct this disturbance.

REPORT OF A CASE OF GRANULOMA ANNULARE. G. CHAMBERS, p. 50.

The patient was a female, aged 22, negative family and personal history. The eruption began in April, 1911, as a small nodule on the dorsum of the right index finger at its base. Upon excision, another lesion appeared in the border of the scar. About two months from the onset, the left hand was involved. The growth of the lesions is practically the same in each case; a little nodule appears, and then extends eccentrically, clearing at the centre. At present the eruption involves the dorsum of both hands, the right hand presenting two ringed lesions and one isolated nodule, the left hand two annular lesions. The borders of the ringed lesions indicate that they have been formed by the confluence of small nodules. Their centres do not exhibit any perceptible atrophy. The color is pinkish and the epidermis is free from scales. Under potassium iodide, Fowler's solution and X-ray, improvement was slow but continuous. On November 24th, 1912, resolution was complete. Two plates illustrating the macro- and microscopic appearance are appended.

VINCENT'S ANGINA COMPLICATING MERCURIAL STOMATITIS. G. CHAMBERS, p. 52.

From observation, the writer is led to believe that the ulcerative and membranous lesions associated with mercurial stomatitis are caused by the bacillus fusiformis and spirillum of Vincent, i.e., that they are in reality lesions of Vincent's angina. He cites an illustrative case.

WISCONSIN MEDICAL JOURNAL.

(January, 1913, xi, No. 8.)

Abstracted by LOUIS CHARGIN, M.D.

A CASE OF EPITHELIOMA OF LIP COMPLICATED BY XANTHOMA  
TUBEROSUM MULTIPLEX. A. DREXEL, p. 253.

LANCET CLINIC.

(Feb. 15, 1913, cix, No. 7.)

Abstracted by LOUIS CHARGIN, M.D.

THE RESISTANCE OF LUTETIC RED CELLS TO COBRA VENUM  
HEMOLYSIS. W. STONE, p. 183.

Stone is favorably impressed with the reaction. In 112 syphilitic patients, the secondary cases showed 87.8% positive results. The tertiary, 83.4%. In latent lues the positive findings were 76.6%, *i.e.*, 24% higher readings than with the Wassermann. He finds the cobra venom test persists much longer under treatment than does the Wassermann. It is, therefore, of value in deciding as to how much treatment a patient should receive.

EDINBURGH MEDICAL JOURNAL.

(February, 1913, New Series, x, No. 2.)

Abstracted by LOUIS CHARGIN, M.D.

TREATMENT OF SYPHILIS BY SALVARSAN. A. MITCHELL, p. 137.

A general review. The writer thinks that the dangers attending the use of salvarsan are grossly exaggerated. He advises against the use of neosalvarsan on the ground of instability.

JOURNAL OF THE MISSOURI STATE MEDICAL  
ASSOCIATION.

(February, 1913, ix, No. 8.)

Abstracted by LOUIS CHARGIN, M.D.

THE POSSIBLE INTER-RELATIONSHIP OF INFECTIOUS ECZEMA-  
TOID DERMATITIS, DERMATITIS REPENS AND ACRODER-  
MATITIS PERSTANS. R. SUTTON, p. 260.

Sutton, basing his opinion upon Engman's evidence and personal study, feels inclined to the opinion that infectious eczematoid dermatitis is a well-defined clinical and pathological entity and should be separated from the group of pustular eczemas. He considers dermatitis repens and acrodermatitis perstans as identical. The pathological difference between infectious eczematoid dermatitis and dermatitis repens he finds is only in the depth of the structures involved; the former presenting the inflammatory changes, especially in the corneous layer overlaying the stratum lucidum, the latter more deeply, in the prickle-cell layer.

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This distinction readily accounts for the difference with which the two diseases respond to treatment, being accomplished with comparative ease in the first named and with great difficulty in the last. The bacteria concerned in the production of all the conditions named are identical; viz.: the white and yellow staphylococcus. He states that vaccine therapy is of great value in all these conditions.

### CANADIAN MEDICAL JOURNAL.

(January, 1913, iii, No. 1.)

Abstracted by LOUIS CHARGIN, M.D.

#### THE RESULTS OF TREATMENT OF SYPHILIS AS SHOWN BY THE WASSERMANN REACTION. G. STRATHY AND G. BATES, p. 32.

The results, succinctly summarized in the appended table, are of cases treated with mercury, variously administered. They think the Wassermann test the most reliable method for the determination of a case of syphilis but find it of little value within six months of treatment.

TABLE SHOWING RESULTS OF TREATMENT.

No. of years' treatment.	No. of cases.	WASSERMANN REACTION.			
		Positive.		Negative.	
		No.	Per cent.	No.	Per cent.
3 years or more.....	11	7	63.	4	36.5
2-3 years .....	27	17	63.	10	37.0
1-2 years .....	27	20	74.1	7	25.9
Less than a year.....	18	17	94.4	1	5.6

### INTERSTATE MEDICAL JOURNAL.

(January, 1913, xx, No. 1.)

Abstracted by LOUIS CHARGIN, M.D.

#### FURTHER OBSERVATIONS ON THE TREATMENT OF HUMAN CANCER WITH INTRAVENOUS INJECTIONS OF COLLOIDAL COPPER. L. LOEB, H. LYON, C. McCLURG AND N. SWEET, p. 9.

In this second communication the authors essentially confirm their former findings (see abs. May issue, p. 372). Thirteen additional cases are reported in detail.

#### THE INFLUENCE OF INTRAVENOUS INJECTIONS OF VARIOUS COLLOIDAL COPPER PREPARATIONS UPON TUMORS IN MICE. L. LOEB, M. FLEISCHER, W. LEIGHTON AND O. ISHII, p. 16.

The tumor experimented with was a rapidly growing adeno-carcinoma. They used five different preparations of copper; colloidal copper and four combinations of copper with casein, designated as A, B, C and D. The conclusions arrived at are, that colloidal copper solutions and copper casein A and D have an influence upon mouse tumors. This consists in inhibition of the growth of the tumor during the time the injections are made. Preparations B and C seemed to have no effect upon the tumors.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

OCTOBER, 1913

NO. 10

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## EDITORIAL.

### THE OVERCROWDING OF THE PROGRAMS OF MEDICAL MEETINGS.

**W**E have heard considerable criticism regarding the manner in which many medical meetings are conducted, and dermatological meetings have been by no means exempt from a share of this criticism.

While much of this ill-feeling is unwarranted and several parliamentary rules are assailed, we are forced to admit that the protest against the overcrowding of the program is in a large measure justified, and we believe that it can be to a large extent controlled.

We fully appreciate the difficulty of arranging a scientific program that will please the majority, and we concede the impossibility of satisfying everybody. But it does seem as though a greater amount of care might be used in respect to overcrowding.

The responsibility for this objectionable feature is manifold. It rests, first, with the Secretary, who, with the Chairman, arranges the program and computes the time allowance for the verbal delivery of each contribution and its discussion. It rests, secondly, with the Chairman, who must prevent the schedule of the meeting from being ignored. It rests, thirdly, with the speakers, who should time their remarks so that their time allowance is not exceeded.

It is obvious, therefore, that it is only by the united efforts of every one concerned that a meeting can be made entirely satisfactory in this respect—and it is this unity of action, this coöperation between the officials and speakers that we ask for.

When a feeling of undue haste prevails, it is accompanied with dissatisfaction and restlessness, and, in the case of the younger men, with actual intimidation.

It is a common occurrence to have an essayist read his paper so rapidly as to preclude a proper appreciation and discussion of the

subject. Not infrequently the reading of a paper is interrupted before the conclusions are given. Occasionally a scheduled contribution is postponed until the following day, even when the contributor is caused serious inconvenience. Finally, it is not at all uncommon to have the discussion of a paper omitted, even when individuals have traveled long distances to avail themselves of the opportunity of asking pertinent questions.

We believe that every one will admit that these features do exist, that they are objectionable, that they are harmful, and that they can be overcome by the proper attention, care, foresight and coöperation of every one concerned. ED.

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### RESEARCH STUDIES IN PSORIASIS: A PRELIMINARY REPORT.\*

(From the Dermatological Research Laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine.)

By

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**F**OR two thousand years physicians have been familiar with the clinical appearances of psoriasis. Much is known of its symptomatology, its course, its diagnosis, its histopathology and not a little concerning its local treatment; of its cause and nature however, we are in ignorance. Auspitz remarked some years ago—"Was Psoriasis ist, weiss bis heute noch kein Mensch."

Through the philanthropy of a generous donor, we have been enabled to inaugurate at the Philadelphia Polyclinic and College for Graduates in Medicine, a research investigation into the nature and treatment of psoriasis.

It is obvious that a research into the nature of a disease should be prosecuted without preformed judgments and with a mind free to receive impressions from the results of experimental work. In the investigations that have been carried out, no attempt has been made

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

to prove any theory of the causation of psoriasis. Two lines of inquiry were outlined—one bacteriological and pathological, and the other physiological-chemical; the work in each department has been carried out with the dominant thought of recording the findings, whether they proved to be of a positive or a negative character. In this manner it is hoped that some illumination may be shed upon a disease, concerning whose nature the widest divergence of opinion exists, and yet of which we know definitely no more than did Hippocrates.

## PART I.

### PATHOLOGY.

#### CONCERNING COMPLEMENT FIXATION IN PSORIASIS.

The original conception and explanation of the Wassermann reaction in syphilis, as being an example of complement fixation through the interaction of a specific antigen and its antibody, is now generally regarded as untenable. This reaction occupies a unique position owing to the fact that the "antigen" in the reaction need not be the *Treponema pallidum* but any suitable lipid. The essential factor is the presence in the body fluids of a reactionary product of cellular activity, "a reagin," due to infection with *Treponema pallidum*, which possesses as a chief characteristic a marked affinity for lipoids and is capable, in the presence of a suitable lipid, of inactivating complement in the test tube, the phenomenon being better known as complement fixation. Similar lipoidophilic "antibodies" are to be found in the body fluids of persons infected with leprosy and yaws. The latter is also a spirochetal infection while the exact nature of the microorganism of leprosy is unsettled. It is of significant importance, however, that certain parasites possess the power of stimulating the production of this peculiar lipoidophilic "reagin," best seen in luetic infection and thus the investigation of diseases of unknown ætiology by a study of complement fixation, using a lipid as "antigen," offers the possibility of shedding some light upon the nature of the antibodies and possibly upon the question of parasitism.

Among other infections, however, examples of specific complement fixation through the interaction of antigen and its amboceptor are well known. Of serum reactions, that of complement fixation is probably the most exact for demonstrating the presence of antibodies due to the activities of bacterial or other protein substances and, therefore, if the antigen is known the antibody may be found,

or, conversely, if the antibody is present in the tissues and body fluids the specific antigen may be found by complement fixation experiments with different substances supposed to contain the specific antigen. In this manner we were led to study the question of local parasitism in psoriasis by preparing extracts of the scales and of various cultures of bacteria isolated from psoriatic lesions, with the idea of determining their ætiological relationship by specific complement fixation with the sera of psoriatic persons, based upon the possibility that a specific immune amboceptor was present in the sera of such subjects. These reactions, however, have distinct limitations; even in pneumonia, tuberculosis, etc., where the specific antigen is known, inconstant results are obtained. It is to be remembered, therefore, in this connection, that while positive results are of considerable value, negative results do not necessarily mean that the specific antigen is absent from the extracts of infected tissues used in the reactions.

The object of this study was mainly two-fold:

1. To apply the Wassermann reaction to the study of psoriasis, to ascertain the presence or absence of lipoidophilic antibodies (reagin).

2. To study complement fixation with the sera of psoriatic patients, using extracts of scales and organisms cultured from the lesions, with the view of shedding light on the question of parasitism.

#### THE WASSERMANN REACTION IN PSORIASIS.

The available literature bearing upon this question is quite meagre. 1. Gjorjevic and Savnik<sup>1</sup> studied the reaction with sera of 20 patients, using an alcoholic extract of guinea pig heart as antigen. One of their cases gave a history of lues and must, therefore, be excluded from the series. Of the 24 remaining cases giving negative histories of luetic infection, 20 yielded weakly positive reactions. In one case the reaction was found positive with active and negative with inactive serum; 2 cases giving weak positive reactions, reacted negatively after treatment. 2. Bruck<sup>2</sup> questioned these results, reporting negative results with both active and inactive sera in 42 psoriasis cases of 45 examined. The remaining 3 cases were strongly positive, but gave positive histories of luetic infection. However, it should be mentioned that he did not consider as positive, reactions showing a weak or slight degree of inhibition of hæmolysis.

<sup>1</sup> GJORJEVIC, G., and SAVNIK, P. *Wien. klin. Wchuschr.*, 1910, xxii, No. 17, p. 626.

<sup>2</sup> BRUCK, C. *Wien. klin. Wchuschr.*, 1910, xxii, No. 19, p. 704.



## TECHNIQUE.

1. ANTIGENS.—Owing to the observation that the lipoidophilic “reagin” in syphilis apparently varies in its affinity for various lipoids, it is advisable to use several extracts with each serum in conducting the Wassermann syphilis reaction. For this reason we have used the following extracts in studying the sera of 48 patients:

- (a) alcoholic extract of syphilitic liver;
- (b) acetone extract of syphilitic liver;
- (c) acetone insoluble lipoids;
- (d) alcoholic extract of guinea pig heart;
- (e) cholesterinized alcoholic extracts of beef and human heart.

All of these extracts were titrated for their antigenic unit with the serum of a case of secondary syphilis. In conducting the reactions, double the titrated dose was used, providing that this amount was at least eight to ten times less than the anticomplementary dose.

2. COMPLEMENT.—Fresh guinea pig serum was diluted 1:20 and used in a dose of one unit after titration with one unit of amboceptor, carried over from week to week or used in a dose of 1 cc. and the amboceptor titrated with this dose and 1 cc. of a 2.5% suspension of washed sheep corpuscles.

3. HEMOLYTIC AMBOCEPTOR.—Antisheep rabbit amboceptor was used in doses representing one hemolytic unit. This is an important feature of the technique, for the quantitative relationship between complement and amboceptor is quite important, an excess being able to mask weakly positive reactions. The exact adjustment of complement and amboceptor is especially desirable when using the sheep hemolytic system, owing to the presence of varying quantities of natural antisheep amboceptor in human sera.

4. SERUMS.—Sera were inactivated by heating to 55° C. for one half hour. Doses of from 0.1 to 0.2 cc. were employed.

5. CORPUSCLES.—One cc. of washed sheep corpuscles in 2.5% suspension. Since all sera were tested with 3 to 5 different “antigens” at the same time, the usual quantities of the various components of the syphilis reaction were used in half the amounts of the original Wassermann reaction.

Serum, antigen and complement were diluted to 3 cc. with sterile normal salt solution and incubated at 37° C. for one hour; 1 cc. of the corpuscle suspension and one hemolytic dose of amboceptor were added and tubes reincubated for one to two hours, depending upon the hemolysis of the controls. Tubes were then placed in the refrigerator over night, readings being made and recorded next morning.

For controls: the serum of each patient without antigen; a luetic and a normal serum with each “antigen”; complement; corpuscle; amboceptor and hemolytic controls were set up each time.

## RESULTS.

The results of the investigation of 48 sera are given in the following table:

TABLE I.  
WASSERMANN REACTION IN PSORIASIS.  
ANTIGENS.

Case.	Name.	Alcoholic Syph. liver.	Acetone Syph. liver.	Acetone Insol. Lip.	Alcoholic Pig Heart.	Cholest. heart.
1.	U—h .....	++	++	++	++	0
2.	M—n .....	++	++	++	++	0
3.	Q—y .....	—	—	—	—	0
4.	F—n .....	++	++	++	++	0
5.	M—s .....	—	—	—	—	0
6.	P—s .....	—	—	—	—	0
7.	L—f .....	—	—	—	—	0
8.	S—r .....	±	++	0	++	0
9.	C—y .....	—	—	—	—	0
10.	R—d .....	—	—	—	—	0
11.	C—k .....	—	—	—	—	0
12.	P—e .....	—	—	—	—	0
13.	N—n .....	—	—	—	—	0
14.	D—y .....	—	—	—	—	0
15.	B—n .....	+++	++	++	+++	0
16.	S—b .....	—	—	—	—	0
17.	B—b .....	—	—	—	—	0
18.	S—p .....	—	—	—	—	0
19.	C—n .....	—	—	—	—	0
20.	D—y .....	—	—	—	—	0
21.	C—t .....	—	—	—	—	0
22.	M—y .....	—	—	—	—	0
23.	K—g .....	—	—	—	—	0
24.	S—m .....	—	—	—	—	0
25.	C—e .....	—	—	—	—	0
26.	H—n .....	—	—	—	—	0
27.	Mc—n .....	—	—	—	—	—
28.	Mc—e .....	++	++	0	0	++
29.	A—n .....	—	—	—	—	—
30.	F—n .....	—	—	—	—	—
31.	B—n .....	—	—	—	—	—
32.	L—a .....	—	—	—	—	—
33.	C—a .....	±	++	++	0	++
34.	D—h .....	—	—	—	0	—
35.	B—n .....	—	—	—	0	—
36.	D—s .....	—	—	—	0	—
37.	M—a .....	—	—	—	0	+
38.	L—f .....	—	—	—	0	—
39.	R—n .....	—	—	—	0	—
40.	B—n .....	—	—	—	—	++
41.	T—t .....	—	—	—	0	—
42.	F—m .....	—	—	—	0	—
43.	S—s .....	—	—	—	0	++

TABLE I.—*Continued.*

## WASSERMANN REACTION IN PSORIASIS.

Case.	Name.	ANTIGENS.				Cholest. heart.
		Alcoholic Syph. liver.	Acetone Syph. liver.	Acetone Insol. Lip.	Alcoholic Pig Heart.	
44.	C—e .....	—	—	—	—	—
45.	H—d .....	+	+	0	0	+
46.	R—r .....	—	—	—	0	+
47.	J—y .....	+	+	+	0	++
48.	M—s .....	—	—	—	0	—

0 indicates that the particular antigen so marked was not employed.

— indicates complete hæmolysis (negative reaction).

± indicates less than 25% inhibition of hæmolysis (doubtful reaction).

+

++ indicates 25% inhibition (weakly positive).

+++ indicates 50% inhibition (positive reaction).

++++ indicates 75% inhibition (strongly positive reaction).

+++++ indicates 100% or absolute inhibition of hæmolysis.

An examination of the table shows the number and degree of positive reactions. The histories of those reacting positively will be given later. It is to be noted that the occurrence and degree of positive reactions varied with the different "antigens" and these are worthy of further analysis:

1. With the alcoholic extracts of syphilitic liver, 9, or 18.7% of sera reacted positively as follows:

(a) Two cases yielded less than 25% inhibition (±).

(b) Two yielded weakly positive reactions (+).

(c) Four gave positive reactions (++).

(d) One gave strong inhibition of hæmolysis or (+++).

In this study several alcoholic extracts of luetic liver were used, including German products standardized by Wassermann and Meier.

2. With the acetone extract of syphilitic liver, 9 or 18.7% of sera reacted positively, all being with the same sera that reacted positively with the alcoholic extract of syphilitic liver.

3. With an extract of acetone insoluble lipoids, 45 sera were examined, positive reactions occurring in 6, or 13.3% of cases as follows:

(a) One case showed 25% inhibition of hæmolysis (+).

(b) Five cases yielded 50% inhibition (++).

It is to be noted, however, that the difference in percentage of positive reactions with this extract compared with the results with alcoholic extracts of luetic liver is due to the fact that not all cases were tested with the extracts of acetone insoluble lipoids. In every instance where a positive reaction occurred with the alcoholic ex-

tract of luetic liver, a positive result likewise resulted with acetone insoluble lipoids.

4. Thirty serums were tested with an alcoholic extract of guinea pig heart, positive reactions occurring in 5 instances, the reaction with an alcoholic extract of syphilitic liver being likewise positive in each case.

5. With cholesterinized alcoholic extracts of human beef heart, the percentage of positive reactions was higher, for in 4 instances these extracts yielded positive reactions with sera which were negative with alcoholic and acetone extracts of luetic liver and an extract of acetone insoluble lipoids. Thus, of 22 sera tested with cholesterinized extracts, 8, or 36.3% reacted positively as follows:

- (a) One case yielded less than 25% inhibition ( $\pm$ ).
- (b) Two cases gave 25% inhibition (+).
- (c) Five cases gave 50% inhibition (++).

As pointed out by Kolmer<sup>3</sup> and his associates, cholesterinized extracts, especially cholesterinized alcoholic extract of beef heart, may yield 25% or less inhibition of hæmolysis with about 10% of normal sera. For this reason it is a difficult matter to properly interpret the results if using cholesterinized extracts alone, when conducting the Wassermann reaction. This is additional evidence in support of the necessity of using several extracts, plain and cholesterinized, with each serum tested for the presence of syphilis reagin.

In 4 cases yielding positive reactions with the cholesterinized and negative reactions with plain extracts, the degree of the reactions was as follows:

- (a) Case 46, R., less than 25% inhibition ( $\pm$ ).
- (b) Case 37, M—a., 25% inhibition (+).
- (c) Cases 40 and 43, 50% inhibition (++).

Omitting Cases 46 and 37 as possible inhibitions of hæmolysis with cholesterinized extracts and normal sera, it leaves 2 cases (40 and 43) in which this possibility is not likely, as controlled by the use of these same extracts in a large number of cases of lues, the results being given in the paper by Kolmer, already alluded to. Of the 48 cases examined it is found, therefore, that slight reactions occurred in 18.7% of cases with an alcoholic extract of luetic liver, and of 22 cases in 28.5% with the cholesterinized extracts, as antigens.

In 5 of our cases an opportunity was afforded for repeating the

<sup>3</sup> KOLMER, J. A., LAUBAUGH, E. E., CASSELMAN, A. J., and WILLIAMS, W. W. "Practical Studies on the So-called Syphilis 'Antigens,' with Special Reference to Cholesterinized Extracts." *Arch. Int. Med.* (in press).

reactions at a subsequent time. While in a few of these patients improvement had taken place, yet some reaction was present. In all of the cases the complement fixation reactions were practically the same as in the first test.

TABLE II.

## REPEATED WASSERMANN REACTIONS IN PSORIASIS.

Case.	Name.	Repeated.	Alcoholic Syph. liver.	Acetone Syph. liver.	Acetone Insol. Lip.	Alcoholic Pig Heart.	Cholest. Alco. Heart.
1.	U—h ....	8 mos.	±	±	±	0	+
2.	M—m ....	4 mos.	++	++	++	++	0
2.	M—n ....	8 mos.	+	+	+	+	++
15.	B—m ....	1 mo.	++	+	++	0	0
43.	S—s ....	1 mo.	—	—	±	0	+
46.	R—r ....	1 mo.	—	—	—	0	±

## INTERPRETATION OF RESULTS.

It is most remarkable that there should have been 9 cases of psoriasis out of 48 or 18.7% that have reacted positively with the complement fixation test employing the Wassermann antigen (alcoholic extract of luetic liver). We cannot, with Bruck, brush these results aside and accord no significance to them, because the reactions were weak, for some of our reactions were of medium degree. In 4 out of the 9 cases there was 50% of inhibition of hæmolysis and in one 75%. Moreover, in the reactions made with cholesterinized antigens, in which we have considerable confidence within the limitations expressed by us, over 28% of the 22 cases examined gave positive reactions.

In Case 15, it is quite possible that the patient may have been a luetic subject, as there is a history of a "chancroid" and a subsequent history which is not devoid of some suspicion. Cases 1 and 2 were men who presented no evidence whatsoever of lues and who firmly denied any history of infection. Cases 4 and 28 were respectable young single women, presenting no evidence of acquired or hereditary lues.

Case 33 was a married woman who had two miscarriages, but has two healthy children, one born between the miscarriages.

There did not appear in our patients to be any definite relation between the severity of the psoriasis eruption and the Wassermann reaction. Four cases giving positive reactions were severe cases, but several were very mild. Several other severe cases gave negative reactions.

We cannot feel, from a clinical study of the patients whose reac-

tions are here presented, that the positive serum tests can all be attributed to syphilis, although this might be true of a few of them. On the other hand, some significance must be attached to them, which future research alone can reveal. We are content for the present to report the facts without attempting to suggest an interpretation of them.

## PART II.

### A. COMPLEMENT FIXATION EXPERIMENTS IN PSORIASIS WITH SCALES AND CULTURE ANTIGENS.

As already stated, these were undertaken with the assumption that if an antibody existed in psoriasis it was in the nature of an amboceptor and present in the body fluids of psoriasis patients in demonstrable amount. If this were true and if the antigen, presumably a parasite, were present in the scales or happened to be among the organisms isolated in pure culture from psoriatic lesions, suitable extracts of these should, with the antibody inactivate complement, or in other words, yield positive complement fixation reactions.

#### TECHNIQUE.

1. ANTIGENS.—The following antigens were prepared and used in this study:

No. 1. NaCl extract of scales. The scales of three cases were lightly washed and dried. Five grams were ground with quartz sand and treated with 50 cc. of .85% salt solution containing 0.5% phenol. This mixture was shaken automatically for six hours; extracted at 37° C. for 48 hours; filtered and titrated.

No. 2. Alcoholic extracts of scales. Five grams of scales were ground and treated with 50 cc. pure alcohol; shaken automatically for six hours; extracted at 37° C. for 48 hours; filtered and titrated.

No. 3. NaCl culture antigen. Pure cultures of twelve different species of organisms isolated from psoriatic lesions were grown on glucose agar; washed off with NaCl solution; shaken automatically for two hours; heated to 60° C. for one hour; 1% phenol and glycerine were added; titrated.

No. 4. Cultures were made and washed off with NaCl solution as in preparing antigen No. 3. The emulsion was treated with equal volume of absolute alcohol and centrifuged; the supernatant fluid was decanted and the precipitate dried over calcium chloride, accurately weighed and ground with sufficient sodium chloride crystals to make up a 2% suspension of the ground organisms in .85% salt solution. The relative amounts of dried organisms used were as follows:

1 cc. diluted 1:10	= 2.0 mg.
1 cc. diluted 1:20	= 1.0 mg.
1 cc. diluted 1:40	= 0.5 mg.
1 cc. diluted 1:80	= 0.25 mg.
1 cc. diluted 1:160	= 0.125 mg.
1 cc. diluted 1:320	= 0.062 mg.
1 cc. diluted 1:640	= 0.031 mg.

Before using this antigen with sera all the above doses were tested for anticomplementary dosage. It was found that all but the largest dose were free of anticomplementary effect and consequently were used with the various serums.

No. 5. A salt solution extract was also prepared of two ascites kidney agar cultures of pieces of psoriasis skin as follows: The oil and kidney were removed and ascites agar columns were weighed, ground with quartz sand and treated with 5 volumes of salt solution. This emulsion was then heated to 60° C. for an hour and 0.5% phenol added.

Three different sets of antigens were prepared and used with a number of sera from psoriasis patients. All antigens were titrated for anticomplementary dose and one quarter of this amount used as an antigenic dose in conducting the reactions.

The following table gives the results of such titrations with one set of antigens.

TABLE III.  
ANTICOMPLEMENTARY POWER OF ANTIGENS.

Amount of antigen.	Antigens.			
	1.	2. Dil. 1:20	3. Dil. 1:10	5. Dil. 1:10
0.1 cc. ....	H.	H.	H.	H.
0.2 cc. ....	H.	H.	H.	H.
0.4 cc. ....	H.	H.	H.	H.
0.8 cc. ....	S.I.H.	H.	H.	M.I.H.
1.0 cc. ....	M.I.H.	S.I.H.	M.I.H.	I.H.
1.5 cc. ....	I.H.	M.I.H.	I.H.	I.H.
2.0 cc. ....	I.H.	I.H.	I.H.	I.H.
3.0 cc. ....	I.H.	I.H.	I.H.	I.H.
Antigenic dose used .....	0.2 cc.	0.2 cc.	0.3 cc.	0.2 cc.

H. = complete hæmolysis.

S.I.H. = slight inhibition of hæmolysis.

M.I.H. = marked inhibition of hæmolysis.

I.H. = inhibition of hæmolysis.

2. *Hæmolytic System.* The antishcep sheep system was employed in the same manner as in the Wassermann reaction.

3. *Patients' Serum.* The sera of ten persons suffering with extensive psoriasis were used. All sera were inactivated by heating to 55° C. for 30 minutes and used in ascending doses: .01 cc., .04 cc., .08 cc., 0.1 cc. and 0.3 cc.

4. *Controls.* The maximum dose of serum (0.3 cc.) without antigen; hæmolytic, complement, antigen and corpuscle controls as usual.

The sera of 10 psoriatic persons were tested with all antigens. The following table of results with one serum shows the method used.

TABLE IV.  
RESULTS OF COMPLEMENT FIXATION REACTIONS WITH PSORIASIS SERUM AND  
VARIOUS ANTIGENS.

Amount of Serum.	Antigens.			
	No. 1. 0.2 cc.	No. 2. 0.2 cc.	No. 3. 0.3 cc.	No. 5. 0.2 cc.
.01 cc. ....	H.	H.	H.	H.
.04 cc. ....	H.	H.	H.	H.
.08 cc. ....	H.	H.	H.	H.
.1 cc. ....	H.	H.	H.	H.
.2 cc. ....	H.	H.	H.	S.I.H.
.3 cc. ....	S.I.H.	H.	M.I.H.	M.I.H.
Control .3 cc..	None	None	None	None

With antigen No. 4, the serums were used in constant dose of 0.2 cc. with ascending doses of antigen as follows: .031 mg., .062 mg., 0.125 mg., 0.25 mg., 0.5 mg. and 1.0 mg.

#### RESULTS.

Nine other sera from active cases of psoriasis, three of which yielded slightly positive Wassermann reactions with lipoidal extracts, were tested in the above manner with all antigens. In no instance was there a complement fixation reaction which could be regarded as a specific reaction.

After repeating these experiments three times, we feel quite certain that either the true antigen was not present in the extracts of scales and cultures used or that the psoriasis antibody if it exists, was not present in the sera in sufficient amount to inactivate complement with the extracts used in this study.



## B. BACTERIOLOGY.

## LITERATURE

Various organisms and "bodies" have been described from time to time as the possible cause of psoriasis, but none has been adequately confirmed by other investigators or accepted by competent critics. As early as 1856, Horing (*Med. Correspondenzbl. d. Württ. Aerztl. Verein.*, 1856, p. 149) and Hafner (*Ibid.*, p. 254), reported cases of psoriasis conveyed from cattle to human beings; they sought for the parasite without result. From the description given, the affection observed is generally believed to be "ringworm."

Wertheim in 1853 (*Abstr. Gaz. hebdom. de med.*, p. 449), examined the blood of psoriasis patients for microorganisms and failing to find any, studied the urine, in which he discovered a fungus of the *Penicillium glaucum* species, with which he carried out animal inoculations.

In 1879, Lang (*Vierteljahr. f. Dermat. u. Syph.*, 1879, p. 257), described in psoriasis scales a hyphomycete consisting of spores and mycelium which he termed "epidermidophyton." Eklund, in 1883 (*Ann. de dermat. et de syph.*, 1883, No. 4), found a similar fungus which he designated "*Lepocolla repens*."

Ries, of Strassburg, in 1888, in a splendid series of papers, disposed of these claims by proving that the so-called parasites were in reality artefacts produced by the action of the potassium hydrate solutions used in the examination of the scales.

In 1887, the question of the parasitism of psoriasis was discussed at the Italian Congress of Pavia. De Matei found a micrococcus which he regarded as the cause of psoriasis; inoculations of this organism upon animals produced, he alleged, psoriasis-like efflorescences. Majocchi looked upon De Matei's findings as accidental.

INOCULATION EXPERIMENTS.—In 1885, Lassar (*Berl. klin. Wochenschr.*, 1885, No. 47, p. 771), demonstrated before the Berliner medizinische Gesellschaft, two rabbits that he had inoculated with psoriasis. One was inoculated with the scales, lymph and blood from a psoriatic patient and the second rabbit from the resulting lesion in the first. In both animals there was loss of hair at the inoculated site and in the first animal redness, thickening of the skin and a heaping up of scales. The removal of the coarse scales led to capillary hemorrhage. Lassar stated, however, that further research along these lines was necessary before he would draw any binding conclusions as to the transmissibility of psoriasis. Behrend, who was present at the demonstration, said that the lesions did not conform to psoriasis in the human subject; they resembled more herpes tonsurans.

Ducrey (*Sulla voluta contagiosita della psoriasi*, *Gior. ital. d. mal. ven.*, 1887, No. 6, abstr. *Arch. f. Dermat. u. Syph.*, 1888, p. 425), tried numerous experiments on man and upon rabbits, guinea pigs and dogs, to test the transmissibility of psoriasis. His experiments consisted of (1) vigorous inunction of a mixture of psoriasis scales with the lymph and blood that exuded, into normal, abraded and incised skin. (2) Application of the same to a blistered area. (3) Hypodermatic, rectal, intraperitoneal and intratracheal injection of psoriatic diseased products. All of the results were negative. Ducrey concluded that (1) psoriasis is not transmissible either to man or lower animals; (2) the various forms of parasites found by different persons in psoriasis lesions are in all probability not the cause of psoriasis.

De Amicis and Campana also inoculated rabbits and guinea pigs with entirely negative results.

**INOCULATIONS ON MAN.**—In addition to the negative inoculations upon man carried out by Ducrey, Alibert and De Amicis, Hammer and Block have attempted the same experiments without results. Wutzdorff's effort to inoculate himself was unsuccessful.

With scales and lymph from a well-pronounced case of psoriasis in a young man, Schamberg (*Jour. Cutan. Dis.*, Nov., 1909) inoculated an abraded area upon the flexor surface of his forearm. The inoculation was entirely negative.

Inoculation experiments upon man and lower animals may be said to have all failed with the single exception of Destot, who was apparently successfully inoculated from a case of post-vaccinal psoriasis.

In approaching the study of psoriasis from the bacteriological standpoint, several possibilities are to be considered: The disease, if parasitic (a), might be due to the implantation upon the skin of an exogenous parasite, as is observed in ringworm, favus and tinea versicolor. Such an organism has hitherto not been found, but might be discoverable by the use of the ultramicroscope or by some new technique. (b) The disease might be caused by one of the common facultative organisms belonging to the group of cocci, so readily cultivable from the skin, in individuals in whom the soil is rendered favorable by some special condition. (c) The disease might be the result of the circulation in the fluids of the body and deposition in the skin of a microparasite, analogous to what is observed in syphilis and variola.

The successful accomplishment of inoculation would go far toward establishing the parasitic nature of the disease and facilitate bacteriological research.

Various cocci and to a lesser extent, bacilli, are to be found among the more common bacteria of the skin. The classification of these is quite difficult, and at the present time considerable confusion exists, so that each investigator has come in time to adopt his own classification.

From the fact that the skin, especially the exposed parts, is subject to contamination with air, water, etc., it becomes more difficult to determine just which species belong properly to the skin as their natural habitation and which represent contamination.

The original classification of Unna and Tommasoli (*Flora dermatologica, Monatsh. f. prakt. Dermat.*, iv, No. 2, p. 49) was based largely upon morphology, growth in gelatin and shape of colonies in agar-agar and gelatine plates. With these methods they divided the various cocci in separate species. Since then other investigators would group all cocci, including diplococci, in one general class without endeavoring to separate species.

Several points in this connection should be borne in mind. First, an organism cannot be properly classified upon one cultivation alone. Thus a culture of diplococci, when freshly isolated may be distinctly gonococcoid in shape; not a few of such cultures lose this character in later sub-cultures, the cocci dividing into twos and threes with the line of cleavage poorly defined. The shape and character of colonies in agar is not entirely reliable, because the age of the colony and its depth in the agar materially alter its shape and morphological characters. The same is true of gelatine, only here the presence or absence of liquefaction has decidedly more value.

Probably the behavior of the various cocci in gelatine and milk has most value in classification. It is to be remembered, however, that the age of the culture is an important factor; thus, some cultures liquefy gelatine or coagulate milk very slowly indeed, but nevertheless are liquifiers and coagulators. This difference between cultures of cocci renders the differentiation between *Staphylococcus pyogenes albus* and *Staphylococcus epidermidis albus* of Welch most difficult, because the line of demarcation between the two is not a sharp one and many cultures partake of the features of both.

Next to their behavior in gelatine and milk, the question of pigment formation is of distinct value. Cultures, however, must be allowed to grow for at least a week or two before color observation becomes trustworthy. Some cultures descend from generation to generation with fixed morphological characters and when such a culture is found, the morphology becomes of aid in the proper classification of the species.

We have studied 24 cases of psoriasis, isolating 57 cultures, representing 16 different species, according to the classification of the cocci which we have been led to adopt. Among these were 7 different cultures of bacilli. All of these, with the possible exception of *Bacillus pseudo-diphtheria*, do not in all probability belong to the skin as their natural habitat, but represent contamination from air and water.

**METHOD OF STUDY.**—Scales were removed from psoriatic lesions before and after preliminary cleansing and planted direct in the water of condensation, in tubes of slanted 1% glucose neutral agar-agar. After various trials we have finally decided that this was the best method of obtaining primary growths. All skin cocci grow more readily with glucose than in plain media.

The primary cultures are then incubated for 48 to 72 hours, because many cultures are practically sterile at the end of 24 hours incubating and the mixed culture in the bottom of the tube is plated in glucose agar and in gelatin. After further incubation for 48 to 72 hours, the various colonies are studied and transplanted. After transplants have proven to be in pure cultures, as far as can be determined by morphological characters of the organisms, the culture is transplanted to the ordinary culture media generally used for the study of bacteria. In the process of classification we have used the nomenclature and technique as outlined by the Association of American Bacteriologists, each culture being recorded on a special Association Identification card.

#### CLASSIFICATION OF SKIN COCCI.

As already stated, the available literature on the bacteriology of the skin is quite meagre. We have adopted the following classification of the cocci found in psoriasis lesions and which may be applied to the skin in general, the classification being based principally upon the following characters:

1. Liquefaction or non-liquefaction of plain gelatine culture grown at room temperature for 2 weeks.
2. Coagulation or non-coagulation of milk cultures grown in incubator for 5 days; also acid and alkali production; whey formation; peptonization, etc.
3. Pigment formation after cultures have been grown on agar for at least 10 days.
4. Morphological characters such as are transmitted in at least 2 subcultures.

1. Round or coccus-shaped organisms; growing in irregular masses.
  1. Liquefy gelatine slowly; coagulate milk tardily; no pigment:
    - (a) *Staphylococcus epidermidis albus* of Welch. Includes the *staphylococcus pyogenes albus*.
  2. Does not liquify gelatine; produces a yellow pigment:
    - (a) *Micrococcus cereus flavus*.
2. Cocci which apparently divide in one plane, with more or less distinct gonococcoid shape.
  1. Does not liquefy gelatine; does not coagulate milk; produces no pigment, or cultures may become very slightly yellowish after prolonged cultivation:
    - (a) *Diplococcus albicans tardus*. Includes the *Diplococcus albicans tardissimus*.
  2. Does not liquefy gelatine; milk promptly coagulated; produces no pigment:
    - (a) *Diplococcus X*.
  3. Liquefies gelatine; does not coagulate milk; produces no pigment:
    - (a) *Diplococcus albus liquefaciens*. Includes the *Micrococcus albus liquefaciens*.
  4. Liquefies gelatine; does not coagulate milk; produces a citron yellow pigment:
    - (a) *Diplococcus citreus liquefaciens*.
  5. Liquefies gelatine; does not coagulate milk; produces a deep golden yellow pigment:
    - (a) *Diplococcus flavus liquefaciens*. Includes the *Micrococcus flavus liquefaciens*.
  6. Liquefies gelatine; does not coagulate milk; produces a pinkish color:
    - (a) *Diplococcus roseus*.

*Diplococcus X*. This organism which has particularly interested us, was found in 5 cases. The diplococci are irregular in shape, sometimes in fresh cultures the line of cleavage is quite distinct; in older cultures they are oval and may occur singly, in pairs or in threes; this organism is Gram positive. It liquefies gelatine in 5 to 7 days and causes prompt coagulation of milk. It grows very slowly, very feebly, but best on media containing glucose. Pigment is not produced, although one old culture has shown a slight yellowish tint in the water of condensation. The colonies in agar and gelatine may be round or oval; their margins are sharp and well defined. It grows very feebly on potato and bouillon. So far we have not been able to classify this organism.

## CULTURES ISOLATED FROM PSORIASIS LESIONS.

Of (the) 24 cases studied, 57 cultures were isolated, representing 10 different species of cocci and 6 of bacilli, as follows:

	CULTURES
Staphylococcus epidermidis albus (5 of these pyogenes albus) .....	22
Micrococcus cereus flavus.....	1
Micrococcus tetragenus.....	1
Micrococcus cinnabareus .....	1
Diplococcus albicans tardus.....	6
Diplococcus (unknown diplococcus X) .....	5
Diplococcus albus liquefaciens.....	3
Diplococcus citreus liquefaciens.....	1
Diplococcus flavus liquefaciens .....	5
Diplococcus roseus .....	3
Bacillus caudatum.....	1
Bacillus citreus .....	1
Bacillus nubilum .....	1
Bacillus rubium.....	1
Bacillus pseudo-diphtheria .....	2
Bacillus subtilis.....	3

## STAPHYLOCOCCUS PYOGENES AND STAPHYLOCOCCUS EPIDERMIDIS ALBUS.

Of considerable interest in this study was the attempted differentiation between *Staphylococcus pyogenes albus* and *Staphylococcus epidermidis albus* of Welch. From the practical standpoint, this is not so difficult when working with a culture isolated from a stitch abscess or acne pustule on one hand and with a culture isolated from the skin on the other, because the culture from the abscess will liquefy gelatine and coagulate milk sufficiently prompt to differentiate it from the skin coccus. But when working with cultures from psoriasis lesions, it is found that they vary so much and shade one into the other, that differentiation is impossible and one is forced to classify arbitrarily as *Staphylococcus pyogenes albus* or *epidermidis albus*.

In an attempt to differentiate still further between these cocci, we have tried their fermentative powers with various sugars in litmus agar and neutral red bouillon. As will be seen in the following table, the results were inconsistent and so similar that differentiation by this means is not possible.

TABLE I.

ACID PRODUCTION WITH VARIOUS SUGARS BY STAPHYLOCOCCUS PYOGENES ALBUS AND STAPHYLOCOCCUS EPIDERMIDIS ALBUS (WELCH).

NEUTRAL RED BOUILLON.								
Name.			Dex-trose.	Sac-charine.	Lac-tose.	Mal-tose.	Dex-trin.	Man-nite.
Staph. Pyogenes	Albus.....		+	+	+	+	+	±
"	"	" .....	+	±	—	+	—	—
"	"	" .....	+	—	—	+	—	—
"	"	" .....	+	+	—	—	+	—
Staph. Epidermidis	Albus....		+	+	—	+	+	—
"	"	" .....	+	+	+	+	+	±
"	"	" .....	+	+	+	+	+	±
"	"	" .....	+	+	+	+	+	—
"	"	" .....	+	+	+	+	+	—
"	"	" .....	+	+	+	+	+	±
"	"	" .....	+	+	+	+	+	±
"	"	" .....	+	+	+	+	+	—
"	"	" .....	+	+	+	+	+	—
"	"	" .....	+	—	—	+	—	—
"	"	" .....	+	+	+	+	+	±
"	"	" .....	+	+	+	+	+	—

TABLE II.

ACID PRODUCTION WITH VARIOUS SUGARS BY STAPHYLOCOCCUS PYOGENES ALBUS AND STAPHYLOCOCCUS EPIDERMIDIS ALBUS (WELCH).

LITMUS AGAR.								
Name.			Dex- trose.	Sac- charine.	Lac- tose.	Mal- tose.	Dex- trin.	Man- nite.
Staph.	Pyogenes	Albus.....	++	++	++	++	—	+
"	"	" .....	++	++	++	±	—	+
"	"	" .....	++	++	++	++	—	—
"	"	" .....	++	++	++	++	—	+
Staph.	Epidermidis	Albus.....	++	++	—	++	—	—
"	"	" .....	++	++	+	+	—	+
"	"	" .....	++	++	++	++	±	+
"	"	" .....	++	+	++	++	—	+
"	"	" .....	++	++	++	+	—	+
"	"	" .....	++	+	++	++	—	+
"	"	" .....	++	++	++	++	—	+
"	"	" .....	++	++	++	++	—	+
"	"	" .....	++	++	++	++	—	—
"	"	" .....	++	+	++	+	—	+
"	"	" .....	++	++	++	++	—	+

These results along with the behavior of the organisms in gelatine and milk indicate their close relationship, and for these reasons we have classified both as found on the skin, under the heading of one species.

A similar study was applied to a few cultures of the diplococci. With these, however, differentiation is not so difficult according to pigment formation, growth in gelatine and in milk. It will be noted in the following tables that the reduction of neutral red bouillon

differed appreciably with different species, although such differentiation was not so well marked in litmus agar.

TABLE III.  
ACID PRODUCTION WITH VARIOUS SUGARS BY SKIN DIPLOCOCCI.

Name.	NEUTRAL RED BOUILLON.					
	Dex-trose.	Sac-charine.	Lac-tose.	Mal-tose.	Dex-trin.	Man-nite.
Diplo. albus liquefac.....	—	—	—	+	—	—
Diplo. albus liquefac.....	—	—	—	±	—	—
Diplo. albicans tardus.....	+	+	—	+	±	—
Diplo. albicans tardus.....	+	+	—	±	—	—
Diplo. flavus liquefac.....	—	—	—	+	—	—
Diplo. flavus liquefac.....	—	—	—	+	±	—
Diplo. flavus liquefac.....	—	—	—	+	±	—
Mic. cerus flavus.....	+	—	—	+	—	—
Mic. tetragenus .....	+	—	—	+	—	—
Diplo. roseus .....	—	—	—	—	—	—
Diplococcus X .....	+	—	—	±	—	—
Diplococcus X .....	±	—	—	—	—	—

TABLE IV.  
ACID PRODUCTION WITH VARIOUS SUGARS BY SKIN DIPLOCOCCI.

Name.	LITMUS AGAR.					
	Dex-trose.	Sac-charine.	Lac-tose.	Mal-tose.	Dex-trin.	Man-nite.
Diplo. albus liquefac.....	+	+	—	+	+	+
Diplo. albus liquefac.....	—	+	—	+	—	—
Diplo. albicans tardus.....	+	+	—	+	—	—
Diplo. albicans tardus.....	+	+	—	—	+	—
Diplo. flavus liquefac.....	—	+	—	±	—	—
Diplo. flavus liquefac.....	—	—	—	±	—	—
Diplo. flavus liquefac.....	—	+	—	+	—	—
Mic. cerus flavus.....	—	+	—	±	—	—
Mic. tetragenus .....	—	+	—	+	—	—
Diplo. roseus .....	—	+	—	—	—	—
Diplococcus X .....	—	—	—	+	—	—
Diplococcus X .....	—	±	—	±	—	—

It is highly probable that these various cocci and diplococci are examples of "mutation," being derived from an original parent, but acquiring certain zymogenic and pathogenic properties as a result of environment, which they are able to transmit from generation to generation.

#### ANEROBIC CULTURES.

As aerobic cultures failed to show the presence of any unusual organism in psoriasis, with the possible exception of the *Diplococcus* X, anaerobic cultures were made in nine cases.



The media used included plain and glucose agar-agar and bouillon; ascites kidney agar and ascites kidney serum bouillon as devised by Noguchi for the cultivation of *Treponema pallidum*.

The pyrogallic acid method of reduction of oxygen and the use of paraffine oil were the principal methods used with the tube cultures.

Scales, serum from the lesions after removal of the scales and after blistering with cantharides, and small pieces of the lesions themselves, removed under ethyl chloride anæsthesia, were planted in the various media and examined at various intervals by the ordinary staining methods and with the ultra microscope. The following table gives the results. The cocci and diplococci belonged to the species already mentioned. Many cultures were grown for periods of time reaching four months, but in no instance were organisms found which could be regarded as unusual or especially noteworthy.

TABLE V.  
ANAEROBIC CULTURES OF PSORIASIS.

Name.	Medium.	Result.	Date of inoculation
B—m. Scales and serum .....	Ascites kidney agar and horse serum bouillon; glucose agar.....	Staphyl. diplococci.	1-24-13
B—m. Lesion ....	Ascites kidney agar; ascites kidney bouillon.....	Cocci.	2-6-13
Mc—m. Lesion ...	Ascites kidney agar; plain bouillon; plain agar.....	Cocci; diplococci.	2-11-13
M—n. Scales and serum .....	Ascites agar; serum bouillon; glucose agar.....	Cocci; diplococci.	1-24-13
L—e. Scales .....	Ascites kidney agar and serum kidney bouillon....	Cocci; diplococci.	2-6-13
R—k. Scales and serum .....	Ascites kidney agar and serum kidney bouillon....	Cocci; diplococci.	1-21-13
B—m. Lesions ...	Ascites kidney agar and plain agar; glucose agar; glucose bouillon.....	Cocci; slender bac.	4-5-13
B—m. Emulsion lesion .....	Ascites kidney agar; serum kidney bouillon.....	Cocci; slender bac.	4-5-13
L—e. Lesion; serum of blister; scales .....	Ascites plain agar; glucose agar .....	Sterile.	4-8-13
B—m. Lesion; serum of blister; scales .....	Ascites plain agar; glucose agar .....	Sterile.	1-28-13
N—w. Lesion; serum of blister; scales .....	Ascites plain agar; glucose agar .....	Sterile.	

## RESULTS WITH EXPERIMENTAL CULTURE MEDIA.

With the assumption that an organism might be present in psoriatic lesions which would grow only in the presence of a peculiar medium, i.e., with the products of metabolism incident to the infection, various culture media were prepared of the scales of psoriasis and used in culturing lesions.

- (a) Scale infusion: 40 grams of scales; 5 grams sodium chloride; 1000 cc. water. Boiled for one hour; strained, cooled; titrated and made neutral to phenolphthalein.
- (b) Scale infusion: same as (a) plus 10 grams of Witte's peptone.
- (c) Scale infusion: same as (a) and (b) plus 1% glucose.
- (d) Scale agar: same as (a) and (b) plus 2% agar-agar.
- (e) Glucose scale agar: same as (c) plus 2% agar-agar.
- (f) Culture media containing the amino-acids after digestion of the proteids by means of trypsin, were likewise tried with a number of cases.
- (g) The blood serum of an active case of psoriasis was likewise used as in the following:
  - 1. Serum bouillon: serum one part; bouillon two parts.
  - 2. Serum glucose bouillon in same proportions.
  - 3. Serum glucose agar.
  - 4. Serum kidney agar.

These media were used in culturing two excised psoriatic lesions, but in neither case were organisms found not already isolated from other cases.

RESULTS.—When these various media were used for isolation or primary growth of cultures, it was found that cultures grew poorly on the peptoneless media, but the ultimate result and likewise the results in general with the remaining media were entirely similar to those obtained with the other well-known culture media.

## MOIST CHAMBER CULTIVATIONS.

Early in the research this method of study was employed and a diplococcus was found with such constancy that we thought it might bear an ætiological relationship to psoriasis. Upon isolation and study of these diplococci it was found that they belonged for the most part, to the group described by Unna and Tommasoli. But their presence was so constant as to attract for a time our attention, especially so when controlled by preparations of other and similar cutaneous lesions.

**METHOD.**—This consisted in planting a small scale upon a sterile slide in a drop of sterile salt solution or glucose bouillon, covering it with a sterilized cover slip and partially sealing with paraffine. The slide was then placed in an improvised Plaut moist chamber, which is so designed that slides are placed over a small amount of water held in a shallow depression of the dish. In this way the preparation is kept in a constantly moist atmosphere. We grew our preparations both in the incubator and at room temperature.

In all, eleven cases of psoriasis were so studied. All yielded a growth after three or four days' incubation, except in one case. Groups of diplococci were found clustered about the epithelial cells. In no instance were bacilli found.

Seven controls were likewise cultured; two cases of seborrhœic dermatitis; three cases of squamous eczema; a case of lupus erythematosus and one case of pityriasis rosea. All yielded cultures of staphylococci except in two cases of squamous eczema, in which staphylococci and *Bacillus subtilis* were found and in the case of pityriasis rosea, in which a diphtheria-like bacillus was obtained.

#### RESEARCHES WITH THE ULTRAMICROSCOPE.

With the idea that the ultramicroscope might show the presence of an organism not readily stained and not growing artificially, we have studied the serum from lesions of a large number of patients suffering with psoriasis and various other skin diseases.

**METHOD.**—After cleansing an area with xylol and alcohol, the superficial layers of epidermis were removed by means of a special scarifier down to the corium, endeavoring to produce the least possible amount of bleeding. A drop of sterile solution was then placed upon a cleansed slide and some of the serum secretion from the denuded lesion added and mixed. A cover slide was then adjusted and the preparation examined.

**RESULTS.**—The first patient so studied had an extensive eruption with well-defined margins to the lesions. Preparations showed from 3 to 6 slender, actively motile bacillary bodies, about  $\frac{1}{4}$  micron in diameter and from 8 to 16 microns in length. Repeated examinations of this patient showed similar organisms.

In all, 19 cases of psoriasis have been examined and these bacillary bodies found in all but two. Prolonged search is sometimes necessary to discover these bodies, especially in mild cases.

In addition to the above form of parasite, a shorter, thicker and less actively motile form was sometimes seen. In some instances, these bacillary bodies have a beaded appearance.

We have examined fresh blood by this method, to determine whether the bodies found were composed of fibrin. Fibrin is deposited later, after the preparation is at least 15 to 30 minutes or an hour old. The filaments are quite fine, usually attached to the corpuscles, are less motile and may be of considerable length.

The following diseases other than psoriasis were examined in like manner for the presence of these bodies:

Seborrhœic dermatitis; 8 cases; similar bodies were found in 1 case.

Acne rosacea; 1 case; negative.

Squamous eczema; 4 cases; negative in all but one.

Lichen planus; 1 case; negative.

Dysidrosis; 1 case; negative.

Tinea circinata; 1 case; negative.

Scabies; 1 case; negative.

Syphilis, tertiary; 1 case; positive.

Of these 18 cases, all were negative except three. The preparations were made in exactly the same manner in all; the chances for the formation of fibrin were equal; no claim of specific pathogenicity is warranted for these bodies at the present time; their constancy in psoriasis and their rarity in the other dermatoses examined, warrants us, we believe, in placing the observation on record.

#### BLOOD CULTURES IN PSORIASIS.

Blood cultures were made of 10 cases. Most of these were acute and extensive cases and were cultured during the developmental stage of the eruption, with the purpose of determining if an organism could be isolated from the blood stream, that was responsible for the development of new lesions.

METHOD.—An all glass Burroughs and Welcome syringe was thoroughly sterilized and from 3 to 5 cc. of blood was removed by puncture of the median cephalic vein at the elbow under all aseptic precautions and after thorough sterilization of the skin. Blood was then planted directly in flasks of culture media and grown for at least ten days, with frequent subinoculations and examinations for bacterial growth. Plain glucose bouillon; plain and glucose serum and ascites bouillon and ascites kidney bouillon were employed.

RESULTS.—As will be seen in the accompanying table, the results were negative with two exceptions. In one case we found in pure culture the unknown *Diplococcus* X and in another a short, solid, Gram positive bacillus, later identified as *Bacillus pseudo-diphtheria*. Many cases had dense lesions about the elbow, so that it may have

been impossible to avoid contamination with the deeper layers of the epiderm. In general, therefore, blood cultures have not so far revealed to us the presence of a bacteremia in psoriasis, either causative or secondary.

TABLE VI.  
BLOOD CULTURES IN PSORIASIS.

Name.	Date.	Result.
L—e .....	1-11-13	Sterile
N—n .....	1-24-13	Diplococcus X
B—m .....	1-26-13	Sterile
L—f .....	1-28-13	Sterile
M—n .....	9-22-12	Pseudo-diphtheria bacillus
Q—y .....	2-3-13	Sterile
S—p .....	3-24-13	Sterile
Mc—e .....	4-17-13	Sterile
J—c (in hosp. at present)	4-4-13	Sterile
R—n (in hosp. at present)	5-4-13	Sterile

#### BLISTER SERUM.

By means of raising a blister over a psoriastic patch with cantharidal collodion, serum was secured which, as it were, filtered directly through the involved area of skin. Blisters of the size of a silver dollar were raised quite readily in active cases of psoriasis and the serum then cultured, examined with the ultra microscope and stained preparations examined for the bodies described by Lipschutz.

Aerobic and anaerobic cultures in plain and glucose agar, plain and glucose bouillon, ascites bouillon and agar and ascites kidney bouillon and agar, yielded sterile cultures. These results were somewhat surprising, as no effort was made to cleanse the patch before applying the blistering collodion.

Examination by means of the ultramicroscope showed the development of fibrils of fibrin but nothing else worthy of mention.

#### BACTERIAL VACCINES (BACTERINS) IN PSORIASIS.

Having isolated a number of different species of organisms from psoriatic lesions, we considered the advisability of preparing and administering a vaccine. The supposedly common skin organisms may represent the cause as operative under special metabolic conditions and, therefore, their vaccine may show this relationship and be of some therapeutic value.

Two different vaccines were prepared of pure cultures of organisms recovered from psoriasis lesions. The first, prepared on No-

vember 4th, consisted of 6 different cultures of diplococci from 6 different cases. The organisms were as follows:

*Diplo-tardus albicans*.  
*Diplo-albus liquefaciens*.  
*Diplo-flavus liquefaciens*.  
Unknown diplococci (X).  
*Diplo-citreus liquefaciens*.

The second vaccine was prepared on Feb. 19, 1913, of 24 cultures including:

*Diplo-tardus albicans*.  
*Diplo-flavus liquefaciens*.  
*Diplo-citreus liquefaciens*.  
Three unknown diplococci (X).  
*Micrococcus cereus flavus*.  
*Micrococcus tetragenus*.  
*Micrococcus flavus*.  
*Bacillus pseudo-diphtheria*.  
*Bacillus ferrugineum*.  
*Bacillus subtilis*.  
Unknown coccus.

The vaccines were prepared in the usual manner, sterilization being effected by heating to 58° C. for one hour. The dose was from 3 to 5 hundred million cocci.

RESULTS.—A number of psoriasis patients were treated with the above vaccines, but the results were indifferent and inconclusive.

While negative results are not conclusive, yet the failure of vaccines to aid in this chronic affection, combined with the negative results of complement-fixation reactions to detect the presence of an antibody for these organisms in the nature of an amboceptor, is evidence against their being active participants in the cause of psoriasis.

#### INOCULATION EXPERIMENTS.

The successful inoculation of the lower animals with psoriasis would facilitate research to a marked degree and above all would afford more conclusive evidence regarding the nature of the disease.

Accordingly we have made several attempts during the past year to infect the *Macacus rhesus* with psoriasis, using scales, serum, implantation with actual buttons of psoriatic skin and intraperitoneal injection of defibrinated blood of an active case of psoriasis.

The method of skin implantation was especially hopeful of positive results if a parasite were the cause of psoriasis, because under the conditions of the experiment the infectious agent was certainly

transplanted, the only question being the subsequent vitality of the "button" and the question of proper soil.

Having found that cases of psoriasis were likely to improve under a low protein diet or, conversely, were apt to grow worse under a high protein diet, we kept a monkey on a diet of milk, plasmon and peanuts for two weeks until 2 gm. of nitrogen were being eliminated in 24 hours. A "button" of psoriatic skin was then implanted, which healed readily, but did not show any evidence of having transmitted psoriasis three months after the inoculation.

Brief protocols of these experiments are as follows:

Experiment 1, Jan. 4, 1913. Monkey. *Macacus rhesus*. Area on back shaved and cleansed; skin abraded and inoculated with bloody serum removed from beneath the scales of a well-marked case of psoriasis. Result: abrasions healed; no resultant eruption.

Experiment 2, Jan 6, 1913. Monkey. *Macacus rhesus*. Area on back shaved and cleansed. Under ethyl chloride spray, a button of skin about 6 mm. in width was removed with a Keyes' skin punch. A similarly sized button was removed from the margin of a well-marked patch of psoriasis and implanted in the monkey. A simple protective dressing was applied. Result: the skin implantation was successful and healing occurred without infection, but there was no evidence of psoriasis resulting.

Experiment 3, Jan. 22, 1913. Monkey. *Macacus rhesus*. Area on back shaved and cleansed and then lightly scarified as in the operation of vaccination. Secretions and scales from a lesion of psoriasis were then rubbed in quite thoroughly. Result: healing; no evidence of psoriasis.

Experiment 4, April 4, 1913. Monkey. *Macacus rhesus*. Kept on a diet of milk, plasmon and peanuts for two weeks. Was eliminating in urine, according to an analysis, 2 gm. of nitrogen in 24 hours. Area of back prepared and implanted with a button of skin removed from a psoriasis plaque. Animal kept on same diet. Result: too early for definite opinion, but probably negative.

Experiment 5, May 27, 1913. Monkey. *Macacus rhesus*. Received an intraperitoneal injection of 6 cc. of defibrinated blood removed from a case of psoriasis. The animal showed no ill-effects and up to five weeks later, had shown no evidences of psoriasis. General health excellent.

While it is necessary to wait even a longer period of time before a negative result can be recorded for some of these experiments, yet as they are, they indicate quite conclusively the difficulty of transmitting this disease (further experiments in inoculation will be made in the near future).

## SUMMARY.

1. Nine of 48 cases of psoriasis, 18.7% yielded positive Wassermann reactions, using an alcoholic extract of luetic liver as antigen. With antigens of cholesternized alcoholic extracts of human and beef heart, over 28% of 22 cases reacted positively. From a clinical study of the patients whose serums were studied, the positive tests cannot all be attributed to syphilis, although this might be true of a few of them; on the other hand, some significance must be attached to them, which future research alone can reveal.

2. Using for antigens aqueous and alcoholic extracts of psoriasis scales and of a large number of cultures of organisms isolated from lesions, complement fixation was not found to occur with 10 sera from active cases of psoriasis. These results would indicate that either the true antigen was not present in the extracts of scales and cultures used, or that the psoriasis antibody, if it exists, was not present in the sera in sufficient amount to inactivate complement with the extracts used in this study.

3. Sixteen different organisms were isolated from 57 cultures from 24 cases of psoriasis. No organism was found which could be regarded as bearing an aetiological relationship to the disease.

4. An unidentified diplococcus "X" was found in 5 psoriatic lesions and in 1 blood culture and is deserving of further study.

5. The use of anaerobic methods and special culture media, composed of the scales and secretions of psoriasis, did not show the presence of any special parasite.

6. Numerous growths of scales in moist chambers showed the presence of diplococci, but no unusual organism or fungus.

7. Investigation with the ultramicroscope discovered the presence of a motile bacillary body in 17 out of 19 cases of psoriasis. In 18 other dermatoses these were found in 3 instances. These bodies are being further studied.

8. Cultures and microscopical examinations of fluid secured by blister over psoriasis lesions, yielded negative results.

9. Vaccine treatment carried out with vaccines made from a large number of different species of organisms found in psoriasis lesions, yielded indifferent and inconclusive results.

10. Inoculation experiments on monkeys, including the implantation of buttons of psoriasis skin, scales, serum and defibrinated blood, were negative in one to six months after inoculation.

*(To be followed by Section II, in which "Studies of the Metabolism of Psoriasis Patients" will be presented.)*



ANGIOMA SERPIGINOSUM (INFECTIVE ANGIOMA OF HUTCHINSON), WITH A REPORT OF A VERY EXTENSIVE CASE.\*

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UNDER the title "A Peculiar Form of Serpiginous and Infective Nævoid Disease," Hutchinson, in the Archives of Surgery for 1889-1890, described and portrayed a rare affection of the skin, the lesions of which appeared to consist of superficial vascular dilatations which spread peripherally and increased in size by the formation and coalescence of "satellite spots." He subsequently called attention to four additional cases of this type, which had come under his observation, and called the disease "infective angioma."

Since Hutchinson's account of the disease, more than a score of similar cases have been reported, chiefly by British observers. Crocker described a case under the title "angioma serpiginosum," believing that this designation was better adapted to the clinical appearances of the disease. That there seems to be a great diversity of opinion and a corresponding diversity of names in the descriptions of the case reports of the disease, a glance at the accompanying table will show. In reading over the literature, I find that, although the reports of all the cases bear clinical resemblances to each other in many minor and essential details, still there is by no means a uniform and stereotyped description of the cases, taken as a whole. In some of the reports, the description of the disease is too meagre to permit of its identification; in others, the lesions are so ill-defined that doubts arise as to the propriety of including them under angioma serpiginosum; and, what is more important, in only a few cases have histological studies been made, to determine the actual changes taking place in the skin.

To make as thorough as possible a review of the literature, I have attempted to collect and abstract all of the cases published to the present time. In this list I have included J. C. White's case of

\* Read before the Section on Dermatology of the 64th Annual Meeting of the American Medical Association, Minneapolis, Minn., June, 1913.

"so-called angioma serpiginosum," which, however, on histological examination, proved to be an angio-sarcoma, placing it under another category of vascular neoplasms. The list also includes a case shown "for diagnosis" by Dore, before the Dermatological Association of London in May, 1905; in this case the diagnosis of angioma serpiginosum was made by Pringle. To these I have added two cases in which the true nature of the affection was not recognized at the time the patients were presented. And finally, the list includes two cases, concerning which the diagnosis of angioma serpiginosum could not be made with any degree of certainty.

Three cases of the disease have come under my observation; the first was in a young woman whom I saw for the first time five years ago, who forms the subject of this report and from whom the histological studies were made. For the opportunity to study the two other cases I am indebted to Dr. Howard Fox, who was also kind enough to present me with the accompanying photographs of his patients.

#### CASE REPORTS.

CASE 1. (No. 26 of table). The patient, Katherine M., aged 28, single, a native of Ireland, was seen by me for the first time on Dec. 26, 1908. The family history was negative; the father died of old age, the mother was living and well; she had two brothers and four sisters, all of whom were living and in normal health; none of the family had suffered from any cutaneous disorders.

PERSONAL HISTORY. The patient had always enjoyed the best of health; menstruation began at the age of sixteen and had been normal since. The cutaneous eruption began at the age of fourteen, as a bright-red patch, about the size of a twenty-five cent piece, on the right side of the neck, just above the outer end of the clavicle. There was no pruritus or other subjective disturbance, as far as she could recollect. When it first appeared, the patch was uniformly reddened, not raised above the normal skin and was free of scales; shortly after, the centre of the lesion began to grow lighter and within a few weeks after its appearance, "the spot looked like and was considered to be ringworm." Six or eight weeks later, she noticed similar patches, together with very minute, punctate, bright-red spots, on both upper arms, on their outer aspects; subsequently, similar lesions appeared on both thighs, legs, breasts and on the abdomen and the buttocks. Gradually the process spread until nearly the entire integument was involved, only the palms and soles and the face and scalp remaining clear.

The mode of onset, or the primary lesions—if the patient's own account is to be taken into consideration—seemed to show a variety of clinical manifestations. The initial patch on the neck appeared in the shape of a uniformly reddened disc; on the arms and thighs there was a simultaneous eruption of punctate spots and bright-red, circular patches; while the breasts, the buttocks, the backs of the thighs and the abdomen presented, in the beginning of the disease, uniform sheets of a dark-red tint, in the midst of which could be discerned grouped, bright-red, pinpoint spots, with little rings grouped in clusters of five or six, or scattered here and there in pairs or singly. On the breasts and the lower abdomen, instead of the punctate spots and the little rings, the patient observed "little red lines, some of them crooked, others curved into half-circles." She stated that after taking a warm bath, the rings and lines and red spots would stand out more distinctly; she also noticed that after a bath the skin looked as though it were covered with dusting powder. On the legs, from the knees to the ankles, she stated that during the last few years the dark-red and purple rings and lines were turning yellow and brown in color.

Shortly after the patient first consulted me, she left for her home in Ireland, to return in February of this year, so that I saw her again after a lapse of five years. As far as I could judge, the eruption had remained practically unaltered, excepting that the rings seemed to be more distinct, the telangiectatic arborisations and the reticulated meshwork of dilated capillaries more pronounced and the pigmentation of the lesions on the legs more marked, than they were five years ago. On this occasion I sent the patient to Dr. Fordyce, who was kind enough to examine her for me; he made the diagnosis of *angioma serpiginosum*.

**STATUS PRESENS.** The patient is a robust, well-built young woman, at present occupying the position of governess. Physical examination fails to reveal any abnormality aside from the cutaneous lesion. The lower portion of the face is subject to a mild *acne vulgaris*. The visible mucous membranes are free of disease and are normal in color. The urine is normal; the Wassermann and von Pirquet tests are negative. The blood examination reveals the following: red blood cells, 3,800,000; white blood cells, 7,000; polynuclear neutrophils, 68%; polynuclear, eosinophils, 2%; polynuclear basophils, 2%; large lymphocytes, 4%; small lymphocytes, 20%; mononuclears, 4%; abnormal white cells and abnormal red cells are absent. The color index is 1. Coagulation time is normal. The blood pressure is normal.

## DESCRIPTION OF THE ERUPTION.

**SUBJECTIVE SYMPTOMS.** Aside from a moderate amount of itching after bathing, there are no subjective symptoms, nor have there been any since the beginning of the affection.

**OBJECTIVE SYMPTOMS.** With the exception of the palms and soles, the backs of the hands and the face and scalp, the eruption involves the integument of the entire body. On superficial examination of the skin, viewed at some little distance, the picture which presents itself is that of a wide-spread, diffused, superficial vascular nevus. On closer scrutiny, however, no less than seven distinct and individual clinical types of lesion can be demonstrated. These are as follows: (1) bright-red, pin-point dots, barely visible to the naked eye, but on account of their vivid-red tint, standing out prominently and distinctly, in contrast to the surrounding, diffusely reddened skin; (2) areas of diffuse, uniform redness; (3) slightly raised, vascular papules; (4) delicate, vascular rings; (5) meshworks of irregularly curved and crooked lines; (6) pigmented lesions; (7) atrophic spots. There is present, also, on some portions of the skin, a diffuse, branny desquamation.

These efflorescences, diversified as they are in their color, configuration, size, localization and pattern-arrangement on the surface of the integument, have, with the exception of the atrophic spots, one thing in common; namely, each one of them is composed apparently, of a congeries of ectatic capillaries, some of them flush with the surface of the skin, some of them sunken, others raised above the niveau. I will detail their distribution over the body, taking up each type of efflorescence in the order named above.

(1) **THE PUNCTA.** Of these minute lesions I can find but two small groups; one on the anterior surface of the wrist, is composed of three tiny, vivid-red spots, which, in spite of their small size, can be sharply differentiated from the surrounding reddish-pink skin; another group is situated on the front of the left thigh, just above the knee and consists of four bright spots, similar to those on the arm, but somewhat larger. These diminutive lesions are on a level with the surrounding skin; pressure with the dioscope does not alter the depth of their color.

(2) **AREAS OF DIFFUSE, UNIFORM REDNESS.** On the extensor surfaces of the hands and forearms and on the buttocks and posterior surfaces of the thighs, are areas of diffuse, homogeneous redness. The depth and character of color varies somewhat in the different localities; on the forearms and hands the shade of red is like that ordina-

rily seen in individuals with a poor circulation after exposure to moderate cold; on the buttocks and thighs the shade is dark red to purple. On cold, wet days the depth of color is said to be more intense over the entire body. Pressure with the diascope over these areas makes the skin much paler, but not quite normal in appearance.

(3) **SLIGHTLY RAISED, VASCULAR PAPULES.** These papules, varying in size from the head of a small pin to the diameter of a lentil, are scarcely raised above the level of the skin and are purplish-red in color, simulating, at a distance, purpuric lesions a few days old. They do not occur in groups, but are scattered somewhat promiscuously on various portions of the integument, chiefly on the breasts, abdomen and thighs. Of these papules I can count thirty or thirty-five, most of them on the anterior aspect of the body. They are soft and compressible, but they do not pale appreciably under pressure. They resemble the small, scattered angiomata often seen on the back and chest of adults, save that they are not so well-defined as are the latter.

(4) **DELICATE, VASCULAR RINGS.** These rings, the most striking units in the picture, are also the most abundant. They are most prominent over the sternum, portions of the breast, the abdomen, the forearms, the legs, the sacral region and the outer aspects of the thighs. Clusters of them are also seen on the back, between the shoulder blades. A group of these rings over the sacrum, which had photographed itself on my mind's eye with especial distinctness when I first saw it five years ago, has not shown any appreciable change during the elapsed time. The peripheries of these rings vary in color from a faint pink to a light red; their size ranges from  $1\frac{1}{2}$  mm. to 2 cm. in diameter. In some areas the rings are sharply defined, as on the chest, legs and abdomen, while on other parts of the skin, as on the breasts, they have a vaguely marked contour, the peripheries gradually shading off and being lost in the surrounding reddened skin. Roughly speaking, the rings are of two types: those having sunken centres and those whose centres are flush with their peripheries. The former are most abundant over the middle portion of the abdomen and over the epigastric region, on either side of the median line; the latter are found on the various parts of the body already enumerated. There does not seem to be any systematized grouping or arrangement of these vascular rings. In the left epigastric region I saw a group of four rings arranged in a straight line from above downward, reminding one of a chain, four of whose links were separated from each other and lain down with short spaces between them. An elliptical excision of the skin upon which

these four links rested was made for biopsy purposes. Clinically, the centres of many of the rings show evidence of atrophy. The lesions are most distinct over the manubrium sterni, the sacrum, the lower abdomen, the outer aspect of the hips and a few on the forearms and the legs. Pressure with the diascopé makes them fainter in color and less distinct in outline, but none of them fade entirely.

(5) MESHWORKS OF IRREGULARLY CURVED AND CROOKED VASCULAR LINES. This type of efflorescence occupies chiefly the breasts, neck and anterior aspects of the shoulders. It consists of a reticulated arrangement of ectatic blood vessels, with meshes of irregular outline, the color varying from red to purple. The strands which make up this retiform plexus vary in width and in outline; some are curved, some serrated, some elongated, some sinuous. On the lower and inner quadrant of the left breast is seen a serrated line about an inch long; on the upper quadrant a congeries of capillary dilatations is seen, grouped to form an irregularly outlined circle, which, however, in no way resembles the annular lesions already described. These retiform lines pale under pressure, but do not entirely fade.

(6) PIGMENTED LESIONS. These are limited to the legs and ankles. They are most pronounced on the calves and middle portions of the legs, from just below the knees to the ankles. The pigment ranges from a yellow to a dark-brown tint; it is most marked in the annular lesions, the peripheries of which are for the most part, darkly stained, while the centres of many of them are lighter in color. Some of these annular lesions are completely hidden by a disc of uniform, dark-brown pigmentation. The skin intervening between the annular lesions is also pigmented.

(7) ATROPHIC SPOTS. Viewed with the light striking the body at an angle, certain areas of the skin show evidences of atrophy. These areas are most marked on the neck and breasts and they bear some resemblance, in a general way, to the reverse side of a fine nutmeg grater; that is, the surface of the skin presents areas showing more or less regularly disposed, whitish, glistening depressions, somewhat irregular in outline, most of them being ovoid or elliptical in shape.

A fine branny desquamation is present on the chest, abdomen and upper and lower extremities. It is most pronounced over the breasts and in regions where the clothing constricts the body, as around the waist; an hour after a warm bath, the scaly appearance is intensified. On the neck and breasts, when the patient refrains from the use of an ointment for several days, the skin assumes the appearance seen in cases of mild ichthyosis.

The second and third cases were patients of Dr. Howard Fox. Both of them were presented before the New York Dermatological Society, one by Dr. George H. Fox, the other by Dr. Howard Fox. At the time of presentation, the diagnosis of angioma serpiginosum was not made in either case, but in one of them (Mrs. S), several members of the Society agreed that the eruption was a type of angioma. Through the kindness of Dr. Howard Fox, I had the opportunity to see both of these patients during the first week in April, 1913, and found that in both cases the lesions were those of angioma serpiginosum.

CASE 2. (No. 21 of table). Mrs. S. was shown at the October, 1910, meeting of the New York Dermatological Society, by Dr. Howard Fox, as a "case for diagnosis" (*Jour. Cutan. Dis.*, 1911, xxix, p. 181). The report was as follows:

"The patient was a German woman, 38 years old, who had applied for treatment of a tuberculo-ulcerative syphilide of the chest. In examining the patient, the peculiar eruption for which she was presented was incidentally noticed. The patient had been very delicate up to her ninth year. She had been married fourteen years and had had four apparently healthy children. Between the first and second births, she had had one miscarriage. The eruption [for diagnosis] was confined entirely to the thighs and legs and had first been noticed eighteen years previously. It was first noticed upon the inside of the thighs and had steadily increased in extent up to the present time. None of the lesions had ever disappeared, according to the patient's statement. There had never been any constitutional symptoms and she had never undergone any treatment for this condition. The eruption, which was roughly symmetrical, consisted of yellowish, punctate macules, grouped together to form more or less reticulated patches. The lesions were not raised and apparently not scaly, although the patient insisted that they had at first been covered by fine scales. She also thought that the patches were redder during the first few years of their existence. Many of the individual lesions presented a somewhat shiny and atrophic appearance."

In the discussion, "Dr. Johnston thought it might be an angio-sarcoma; Dr. Jackson agreed with Dr. Johnston, that it was probably a vascular trouble of angioma type and Dr. Fordyce said it was a unique case and suggested angioma."

In this report, the statement was made that the eruption is confined to the thighs and legs; but when I examined the patient, a few weeks ago, I was surprised to see that the process had extended considerably during the last three years, as the eruption was present, not only on the thighs and legs, but also on the shoulders, arms, forearms, abdomen and hips. The eruption as a whole, consisted of isolated and coalescing areas of efflorescences, apparently composed of a reticulated meshwork of dilated vessels, not raised above the level of the skin. The strands of the network are light-red in color and in places, where some of these strands of dilated vessels have fused or have crossed each other, the appearance of an irregularly outlined macule, ranging in size from a pinhead to a split-pea, is

given. On both arms, over the biceps muscles, are groups of pinpoint to lentil-sized, purpura-like macules, the larger ones slightly raised above the level of the skin; none of these lesions, neither the reticulated nor the macular type, disappears under the pressure of the diascope, although they all become considerably paler. On the thighs and legs, an unmistakable atrophic and shiny appearance is evident when the light strikes the skin at an angle. On examination with a lens, the little islands of skin enclosed in the network of dilated vessels give the impression of being somewhat depressed below the level of the surrounding skin.

On the outer aspect of the right thigh are seen a few groups of small annular lesions; pigmented spots are absent. On the same thigh, above the knee, there is a patch of diffuse, reddish-pink, slightly scaly erythema, about the size of a silver dollar and somewhat resembling a patch of acute erythematous lupus; the patient states that this patch, together with the spots on the upper arms, have made their appearance during the last six months. All of the affected areas are covered by fine, branny scales; at times there is moderate itching. A biopsy was not obtainable.

The third case, that of Mrs. L. W., was presented before the New York Dermatological Society, December, 1911, by Dr. George H. Fox, as a case of diffuse macular atrophy of the skin (*Jour. Cutan. Dis.*, 1912, xxx, p. 208).

CASE 3. (No. 24 of table.)

"The patient was a Russian woman, 38 years old, who had been in the United States for 19 years. During this time she had suffered a good deal from indigestion. She was the mother of six rather delicate children. No member of the family had ever suffered from any similar disease of the skin. The eruption on the breasts was first noticed about ten years ago, that upon the trunk and extremities about two years ago. The eruption was worse in winter than in summer. It had only recently occasioned much itching. There had never been any oozing, according to the patient's statement. Examination showed the presence of large, diffuse patches on the back, chest, arms and legs, which were reddish, dry and slightly scaly and presented numerous small, atrophic spots. On the breasts there was a reticulated, macular atrophy, somewhat resembling the telangiectases following X-ray treatment. At a certain angle of light, the atrophic spots had a white, shining appearance and a tendency to linear distribution. The elbows and knees presented the usual picture of diffuse atrophy of the skin. The patient was well nourished and appeared to be in good general health. She had never been treated by the X-ray."

In this patient, whom I examined on several occasions during the month of April, 1913, the most striking features of the eruption were the large, diffuse, irregularly outlined areas of skin, presenting a network of reddish, vascular dilatations, together with a glistening,



atrophic appearance of the affected areas of skin. There was, also, a moderate amount of fine, branny desquamation and the patient complained of attacks of occasional, mild itching. The condition was most marked upon the breasts, where it had first made its appearance, about ten or twelve years ago. The upper arms, the thighs and legs, parts of the abdomen, the buttocks and the lower portion of the back presented large, irregular, vaguely outlined, reddish and violaceous areas of dilated capillaries which were not raised and which, on pressure with the diascope, would pale slightly. On the breasts, elbows and knees, the atrophic appearance was more marked than elsewhere. I was unable to find other types of efflorescences—there was no evidence of puncta, vascular nodules, annular lesions, or pigmented spots.

According to the patient's statement, the vascular dilatations were preceded by patches of diffusely reddened skin, somewhat rough and scaly, in the midst of which would appear a group of branched and forked telangiectases, the diffuse redness gradually fading and giving place to a whitish, glistening appearance. There has been no evidence of retrogression; fresh areas of the integument have become involved in the process during the last few months. She complains of only slight itching and states that, aside from the cosmetic standpoint, the eruption gives her no trouble.

In studying these three cases from a clinical point of view, we find that they present a number of striking similarities to each other, both subjectively and objectively. The subjective disturbances in each of the patients manifested themselves by such a moderate degree of pruritus, that the symptom may be dismissed as a negligible item, requiring no further comment. Objectively, the most salient features of the three cases may be briefly summarized as follows:

The eruptions were not preceded by a port-wine mark or other form of *nævus*, nor any cutaneous abnormality; in all three, no etiologic factors were ascertainable. In each case the eruption began insidiously and progressed slowly, without any apparent exciting cause; the general health of the patients remained unaffected, despite the inroads of the cutaneous trouble (in Case 2, it will be noted that the skin affection appeared before the patient was infected with syphilis). Different portions of the integument were attacked during the course of the disease, the patches appearing independently of each other, but usually symmetrically arranged on either side of the body. The eruption did not spread serpigiously from a single primary or parent lesion, but the individual patches,

appearing on various portions of the integument, independently of each other, had their inception in a variable number of primary or parent lesions. These primary lesions were destined to form the centres of diffuse patches of various extent; each of them was a nucleus from which the vascular dilatations, either punctate, or macular or linear in type, would gradually spread by means of out-lying or "satellite spots," as they were called by Hutchinson; these satellite spots would then coalesce, forming the reticulate or gyrate or nodular types of efflorescence. In each case, the little islands of skin formed by the branching and coalescence of the blood vessels, gave the appearance of being atrophic spots slightly sunken below the level of the surrounding skin. This atrophic and glistening appearance was most marked in the older patches and was very slight, or altogether absent in the more recent areas of involved skin. Another point of interest is that these three cases occurred in women, in whom the malady made its appearance at the ages of 14, 20 and 28 years, respectively.

#### HISTOLOGICAL REPORT.

The material for the histological study consisted of three pieces of skin cut from different parts of the surface and suitably fixed. This set of specimens, when sectioned, showed at a glance, such marked differences from the appearances anticipated from a study of the meagre literature of the subject, and above all, such grave changes in the epidermis, about which previous writers had made no mention at all, that I feared that possibly the specimens had not been promptly fixed after excision, and accordingly, additional material was obtained. The second set of specimens consisted again of three pieces of tissue, cut from typical areas and immersed instantly into Zenker's fluid, Fleming's solution and alcohol, respectively. These specimens showed the same changes that had aroused my astonishment in the first set of specimens, demonstrating that the first set of specimens had been properly handled.

The second set of specimens were cut from (1), the border of an erythematous patch of recent origin on the leg, fixed in alcohol; (2), a group of ringed lesions on the abdomen, fixed in Zenker's fluid; (3), a ringed lesion with apparent atrophy in the middle, from the thigh, fixed in Fleming's solution.

These specimens, imbedded in paraffin, were cut and mounted to some extent serially and stained in various ways. Credit is herewith given to Dr. O. W. Hillman, of the Post Graduate Medical School, who supervised the technical preparation of the specimens, for his

interest in the work and the excellent sections which he prepared. The best results were obtained by staining with eosin-methylene blue (Mallory) and phosphotungstic-acid-hæmatoxylin. Other stains, such as polychrome methylene blue, van Gieson, polychrome-orcein and special stains for elastic tissue, etc., were also employed.

The specimens all showed the same kind of lesions, the differences being only those of degree. In all, the changes were limited to the subpapillary and papillary layers of the corium and the epidermis. In the early lesions (the alcohol specimens from the leg) the changes in the subpapillary layer consist of a moderate lymphocytic perivascular infiltration, with proliferation and swelling of the endothelial layer of the vessels. In some of the capillaries, the number of endothelial cell-nuclei seems, on comparison with normal vessels in other parts of the section, to be increased to half again the normal number. The swollen endothelia project well into the lumina of the capillaries, but nowhere is there any evidence of occlusion of the vessels. The perivascular infiltration consists of cells of the type of lymphocytes, arranged sometimes in a single row, along the adventitia of the capillaries, sometimes increased to form a collar of moderate thickness. Here and there, a plasma cell and a few mast cells are visible. In the papillary layer, the changes are more marked. We find at various points in the section one or more papillæ, distended with cells that infiltrate the widely dilated perivascular lymph spaces, the capillaries themselves abnormally sinuous, so that a single capillary loop of the papilla may be cut transversely or obliquely, a number of times, giving the appearance of an increase in the number of vessels in the papilla; the endothelial nuclei swollen and increased in number. The epidermis over the area involved presents marked evidences of œdema; the basal layer of cells is most strikingly altered; the sharp line of demarcation between epidermis and corium is often disorganized, the lymphocytic cells of the papillary layer intermingling with the cells of the rete; the latter are separated from each other by widely dilated spaces, the intercellular bridges having ruptured and in some places the cells themselves are distended with fluid, so as to present a dilated shell of cell membranes, without any remains of cytoplasm, the small, compressed nucleus floating free in the clear fluid-contents of the cell. In other words, we have here a high degree of intercellular and intracellular œdema. The evidence of this œdema, in the form of widely dilated lymph spaces and vesicular nuclear-cavities, extends for a considerable distance into the rete and in some places almost up to the stratum granulosum; over such an area the stratum granulosum and

the horny layer show the parakeratotic appearances common in an epidermic œdema.

The specimens from the more advanced lesions exhibit virtually the same class of changes, except that they are more pronounced. The infiltration is far more extensive, occupying, in the sections, an area corresponding to four to eight papillæ and extending down to the lowest portion of the subpapillary region, where it terminates in a fairly sharp line. This definitely circumscribed area of infiltration is made up mainly of lymphocytic round cells and in addition to a few pigment, mast and plasma cells, shows a small number of polynuclear cells. These latter invade even the epidermis to a slight extent. In these more advanced lesions, the changes in the capillaries are also more marked. We find the same endothelial proliferation, but there is also a certain amount of capillary new-formation. In places, three, four or five capillaries may be seen in close proximity, running parallel to each other and vertical to the surface, from the subpapillary plexus to the epidermis. Both from their greater number, as from the thin, delicate walls of some of these capillaries, it is evident that many of them are newly formed. They resemble the capillary new-formation seen in granulation tissue. The sections do not extend to the hypoderm, but in the lower portion of the corium, a few larger vessels are seen, which exhibit a considerable degree of endothelial proliferation.

The elastic fibres through the section seem normal. The collagenous tissue, however, in the areas of greatest infiltration, has suffered a certain amount of alteration—broken, clumped or twisted fragments which take acid stains less intensely than normal tissue, indicating a degeneration which possibly is a factor in the production of the clinical appearance of atrophy.

In the epidermis, the lower layers of the rete exhibit, in places, the same inter- and intracellular œdema as described above. The œdema, however, stops short of producing a true vesicle in the epidermis. There is neither necrosis nor colliquative degeneration of groups of cells, such as we find when true vesicles are formed. The injury to the epidermis is sufficient, however, to explain the clinical appearance of minute areas of atrophy, which must follow the subsidence of the active stage of the process described.

Over the middle of the papillary infiltration, the epidermis is generally found compressed mechanically and reduced in thickness to a layer of four or five rows of cells, the papillæ being obliterated.

**HISTOPATHOLOGICAL SUMMARY.** To sum up the minute anatomical features of this case, we have a progressive, perivascular in-

filtration of the papillary and subpapillary layers in circumscribed areas, corresponding to the small, deep-red papules and the rings of the annular lesions. In these areas there is a proliferation of the capillaries as in inflammatory tissue and there is marked endothelial proliferation and swelling. The elastic tissue appears normal, the collagenous tissue sometimes degenerated. The epidermis over the areas of infiltration shows a high degree of inter- and intracellular œdema, affecting the lower layers of the rete principally, but extending with diminished intensity as far as the stratum granulosum. The lower layers of the rete are invaded by the lymphocytic cells from the papillary infiltration; a few polynuclear leucocytes are seen and many of the epidermic cells have undergone a vesicular and hydropic degeneration. The epidermis as a whole, is compressed at the highest point of the infiltration and reduced to less than half its normal thickness. The stratum granulosum is thinned or absent; there is no sign whatever of extravasated blood as in a hæmorrhagic process, nor of widely dilated capillaries and veins, as in some forms of vascular nævus.

From this description, it is evident on the one hand, that the essential process is a low-grade inflammation, affecting primarily the capillary areas of the papillary and subpapillary regions, with secondary effects in the epidermis; and on the other hand, that the process is in no sense an angioma, and to this extent, the name given to the disease is not appropriate. The question arises, are we dealing with what has been called angioma serpiginosum, or with a disease hitherto unknown? The question must be examined in its histopathological as well as in its clinical aspects.

It is unfortunate that the few histological examinations reported in the literature are made, for the most part, by general pathologists, who notoriously are not expert in the special field of dermatopathology. From the dermatologist's point of view, many of these reports are simply useless. A few definite statements may be culled from some of these accounts, however, which have a bearing on our question. Roberts (*loc. cit.*) who has given us the best histological description of a case, described and pictured cavernous vascular spaces in the papillary layer and expressly stated that there was a total absence of inflammatory reaction and none but mechanical changes in the epidermis. Jamieson stated that he found the epidermis normal and "the vascular loops of the apices of the papillæ were dilated into wide spaces." He makes no mention of any inflammatory condition and regards the condition as "a very superficial capillary nævus." In Sequeira's case "the epidermis was of normal

appearance; the capillaries and most of the venules of the deeper layers of the dermis were engorged; there was no infiltration by free cells."

It is evident that these three cases present a condition essentially similar; a non-inflammatory process, characterized by capillary ectasia, which may be even cavernous; a condition apparently not different from the common hæmangiectatic nævus, but vastly different from the condition found in the present case. Are we justified in assuming that they differ from all the other cases described as angioma serpiginosum? Apparently not. In studying the clinical side of the question, we are again confronted with a certain lack of definiteness in the descriptions. Many of the cases in the literature are mere outline descriptions of cases presented at some clinical meeting, and necessarily brief. But the main difficulty is to determine what was the real condition when the terms "vascular" and "telangiectases" are employed. There is a natural tendency in hurried descriptions, to substitute these anatomical terms for the clinical or descriptive term *erythematous*. From the clinical side, it is a matter of not much consequence which term we use; but for an understanding of the underlying condition, it is of the greatest importance. Telangiectases are visible, for instance, in advanced cases of rosacea; they are not visible in vascular nævi, though we know they are present in that condition. In the report of a case of a ringed eruption presented by Morris at the London Dermatological Society (loc. cit.), while the terms "telangiectases" and "hæmorrhagic" were employed in the description of the case, several of the members expressed the opinion that the lesions were erythematous (due to inflammatory hyperæmia), rather than to permanent changes of the lumina of the vessels, or to hæmorrhages.

These considerations illustrate the difficulties encountered in attempting to fix the proper relations of the present case. It seems beyond question that some of the cases described as infective or serpiginous or retiform angioma belong to the group which includes the case here discussed. It seems equally certain that there has been included in this group another class of cases with similar clinical appearances, which is of an entirely different nature anatomically and ætiologically. One is a progressive, superficial, capillary hæmangioma; the other a subacute inflammatory process, limited to the papillary and subpapillary layers, most probably of toxic origin.

A word as to Majocchi's purpura annularis telangiectodes and its possible relation to the disease here described. The two diseases have been sufficiently differentiated on clinical grounds. From the

PLATE XXI.—To Illustrate Article on Angioma Serpiginosum,  
by DR. FRED WISE.



Fig. 2, Case 1.  
Angioma Serpiginosum. Showing irregularly curved  
lines on breasts.

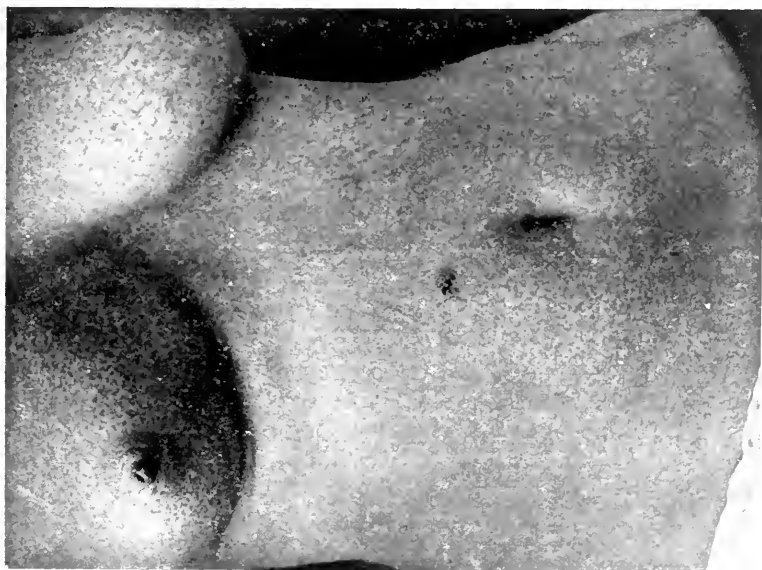


Fig. 1, Case 1.  
Angioma Serpiginosum. Showing annular lesions on  
abdomen.





PLATE XXII.—To Illustrate Article on Angioma Serpiginosum,  
by DR. FRED WISE.



Fig. 1, Case 1.  
Angioma Serpiginosum. Showing annular and serpiginous lesions on lower extremities.

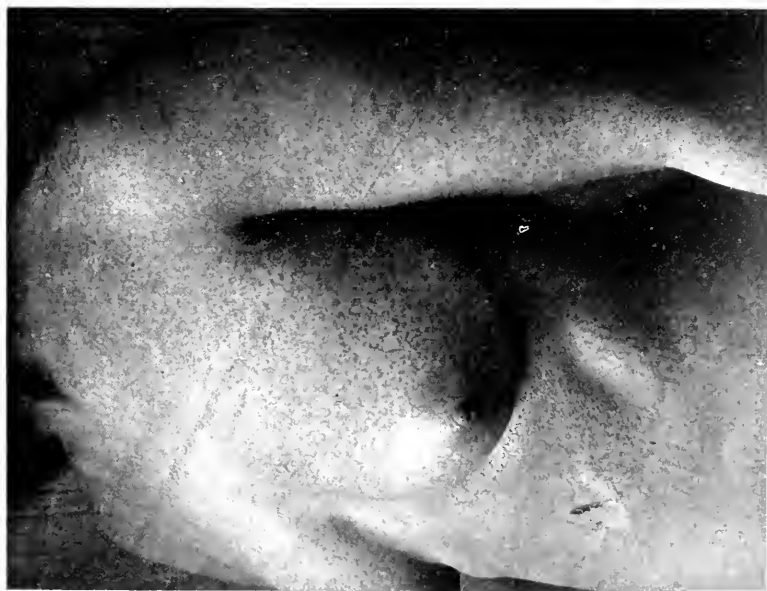


Fig. 3, Case 1.  
Angioma Serpiginosum. Showing annular lesions on abdomen and serpiginous lesions on arm and breast.



PLATE XXIII.—To Illustrate Article on Angioma Serpiginosum,  
by DR. FRED WISE.



Fig. 5. Case 2.  
Angioma Serpiginosum. Dr. Fox's patient.



Fig. 6. Case 3.  
Angioma Serpiginosum. Dr. Fox's patient.



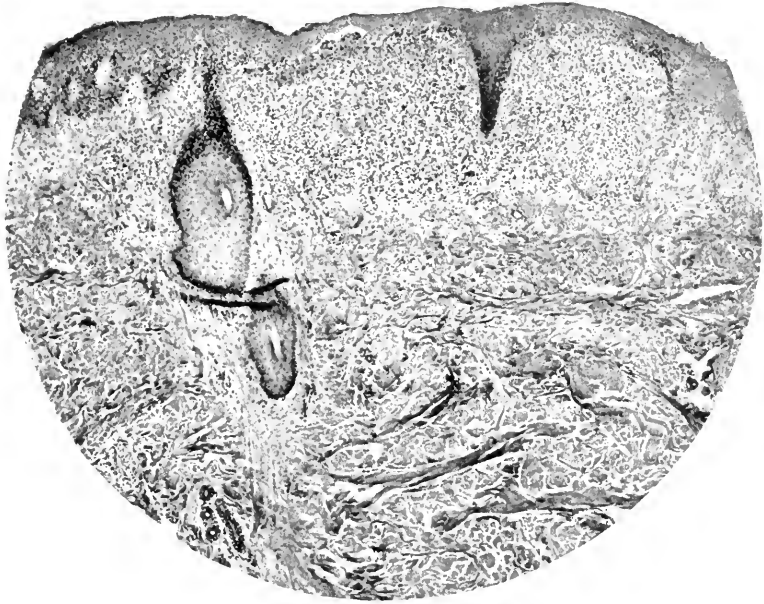


Fig. 7. Case 1.

Angioma Serpiginosum. Small papule; shows dense, circumscribed infiltration limited to papillary and subpapillary region, and thinned and degenerated epidermis.

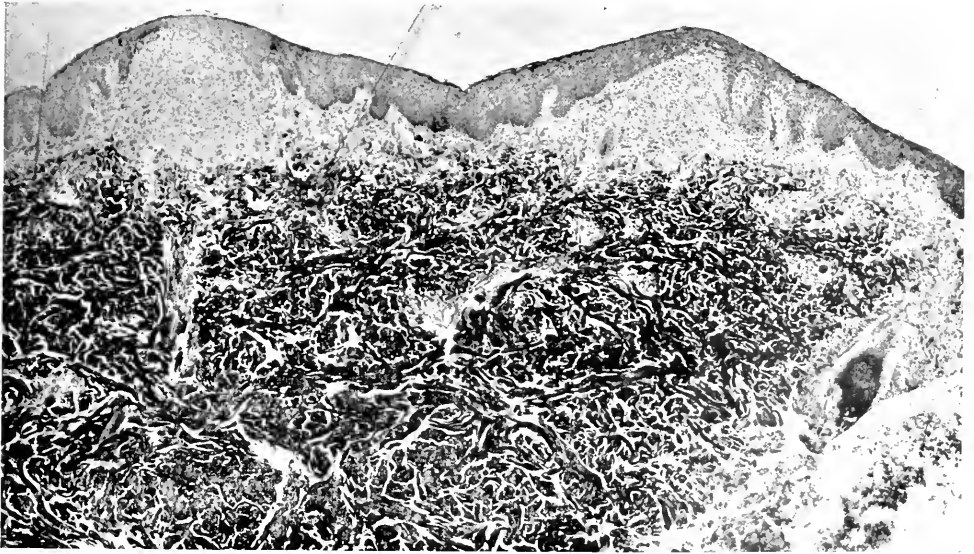


Fig. 8. Case 1.

The section passes through the middle of a ringed lesion and shows, in duplicate, changes as in Fig. 7.



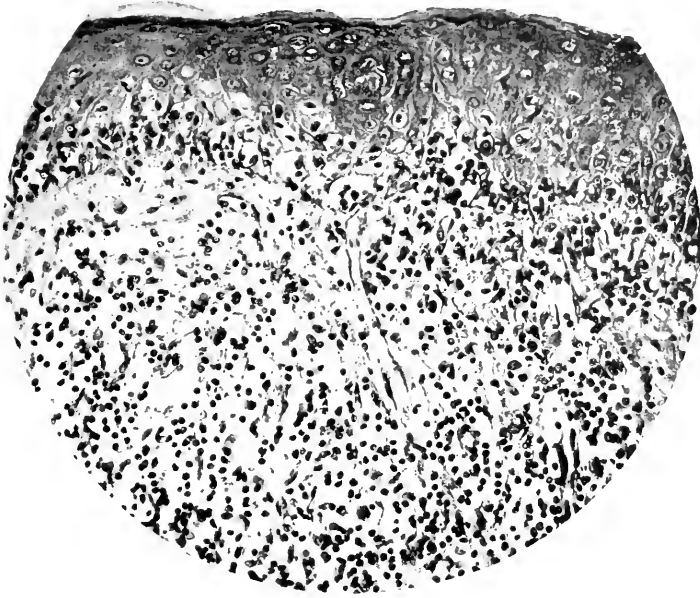


Fig. 9. Case 1.

Higher power. Shows œdema of epidermis; lower layer disintegrated; hydropic degeneration; here and there large vesicular spaces containing lymphocytes and a few polynuclears and free epithelial nuclei. In the corium, the general character and distribution of the infiltration is shown, and there is apparently a moderate, inflammatory, new-formation of capillaries.

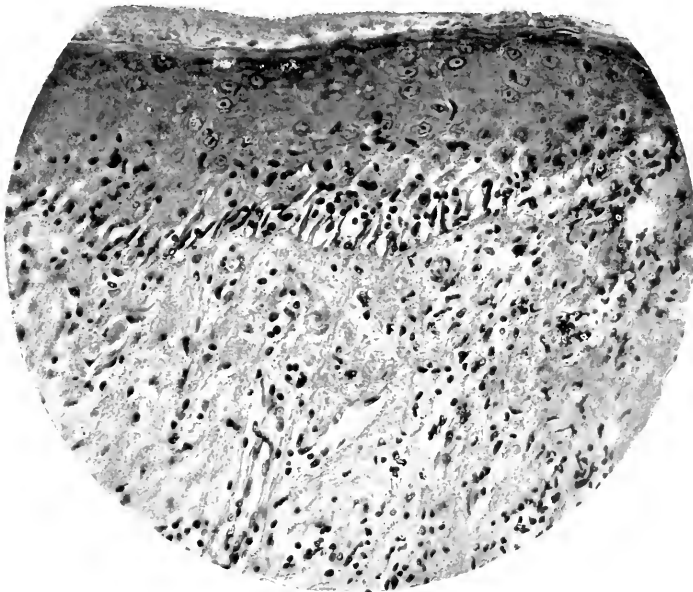


Fig. 10. Case 1.

Higher power. Changes in epidermis like Fig. 9. The corium at this point relatively slight changes.





point of view of the pathologist, the absence of the characteristic changes in the epidermis, the nature of the infiltration and the absence of hæmorrhage in the present case suffice to separate the two diseases completely. The unique case of universally disseminated vascular nævus (Pollitzer, loc. cit.), is often referred to in connection with angioma serpiginosum; there is no relation between the two conditions; the former was a clear case of congenital telangiectases, an extraordinarily wide-spread vascular capillary nævus. White's case of "angioma serpiginosum," with a histological study by Darier and Councilman and Bowen, was found to be an angioplastic reticulated sarcoma—a condition we should to-day probably call perithelioma. Clinically, it was not a clear case of angioma serpiginosum and histologically entirely different. In response to an inquiry, Dr. White recently stated that he had heard that the patient was still living and that the cutaneous disorder had long ago disappeared, leaving scars.

(To be continued.)

## THE LEUCOCYTES IN SYPHILIS.

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(From the Dermatological Department of the Freedmen's Hospital and the Johns Hopkins Hospital.)

(Continued from page 633.)

### CHANCRE.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
1. White male, aged 35, chancre, 2 weeks, untreated.							
65.0%	.....	0.2%	34.6%	.....	0.2%	.....	.....
2. White male, aged 35, chancre of lip, 1 month, no treatment, no secondaries.							
50.2%	0.4%	1.2%	40.6%	6.0%	1.6%	....	10000
3. White female, aged 17, chancre of lip, 6 weeks, no treatment.							
58.4%	2.4%	1.4%	32.0%	5.4%	0.4%	....	12000
4. White male, aged 40, chancre of upper lip, 6 weeks, doubtful secondaries, maculars, appeared to-day.							
80.8%	2.8%	0.4%	12.4%	3.2%	0.4%	....	11000

CASES OF SECONDARY SYPHILIS, IN WHICH THE ERUPTION HAD  
BEEN MANIFEST FOR LESS THAN ONE WEEK AND  
WHICH HAD RECEIVED NO TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
5. Negress, aged 21, small papular lues for 7 days. Case proved very resistant to treatment.							
78.8%	1.2%	0.8%	17.8%	1.4%	....	....	17700
6. Negro male, aged 30, small papules present 1 week, rather mild infection.							
54.0%	2.6%	1.0%	40.0%	1.2%	....	....	6000
7. Negress, aged 21, lesions 1 week, of annular type, mild infection..							
59.0%	2.4%	0.6%	36.2%	1.8%	....	....	8000
8. Negro, aged 27, annular for 1 week, mild infection.							
58.0%	1.8%	0.6%	34.6%	4.6%	0.4%	....	14400
9. White male, aged 28, chancre 1 year ago, macular lesions 1 week, severe.							
73.4%	1.4%	0.2%	20.8%	3.2%	1.0%	....	15000
10. Negro female, aged 35, present miliary lesions, mild.							
52.4%	1.0%	1.0%	43.2%	2.0%	0.4%	....	12000
11. Negress, aged 24, follicular lesions, rather severe.							
71.4%	1.4%	0.4%	25.2%	1.2%	0.4%	....	10000
12. Negro, aged 24, small pustules, 1 week, rather severe.							
71.8%	1.4%	0.6%	21.0%	4.6%	0.6%	....	14400
13. Negress, aged 26, small pustules, not very severe.							
62.2%	2.4%	....	33.2%	2.0%	0.2%	....	6900
14. Negro, aged 34, small pustules, 1 week, rather severe, but healed well.							
46.6%	1.6%	1.0%	48.0%	2.8%	....	....	18000
15. Negro male, aged 27, annular, mild.							
46.6%	2.0%	4.4%	37.4%	8.0%	1.6%	....	8000

CASES OF SECONDARY SYPHILIS IN WHICH THE ERUPTION HAD  
BEEN MANIFEST TWO TO THREE WEEKS INCLUSIVE  
AND WHICH HAD RECEIVED NO TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
16. Negress, aged 22, small papular for 3 weeks, mild.							
57.4%	3.2%	0.2%	37.6%	0.8%	0.8%	....	12000
17. Negress, aged 30, small papules, 3 weeks, did well.							
38.6%	6.6%	0.2%	52.4%	0.2%	1.8%	0.2%	12000
18. White male, aged 19, macular, 2 weeks, moderate infection.							
62.8%	1.2%	2.2%	30.4%	2.8%	0.6%	....	.....
19. White male, aged 30, macular, 2 weeks, moderate infection.							
36.0%	3.6%	3.2%	54.0%	3.2%	....	....	8000
20. Negro male, aged 23, small pustules, 2 weeks, moderately severe.							
70.0%	0.8%	1.2%	24.8%	2.6%	0.6%	....	15000
21. White male, aged 27, very severe macular, that proved very resistant.							
84.2%	0.4%	0.6%	11.0%	3.6%	0.2%	....	7000
22. White male, aged 22, macular, 3 weeks, moderate infection.							
69.6%	1.2%	0.8%	23.0%	5.0%	0.4%	....	8000
23. Negro, aged 30, papular, 3 weeks, moderate infection.							
41.4%	1.4%	1.2%	52.0%	3.0%	1.0%	....	.....

# THE LEUCOCYTES IN SYPHILIS

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CASES OF SECONDARY SYPHILIS IN WHICH THE ERUPTION HAS BEEN MANIFEST FOUR TO SIX WEEKS INCLUSIVE AND IN WHICH THERE HAS BEEN NO TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
24. Negro, aged 22, mucous patches and much enlarged glands for one month. Infection mild, had done well.							
44.2%	1.6%	0.6%	51.0%	1.6%	0.4%	0.4%	10000
25. Negro, aged 18, much enlarged glands, 1 month, did well.							
56.0%	1.0%	2.0%	38.0%	3.0%	....	....	7000
26. Negro male, aged 25, chancre 6 mos. ago, mucous patches 1 month, did well.							
55.0%	0.8%	0.4%	42.0%	1.2%	0.8%	....	8000
27. Negress, aged 55, annular for 6 weeks, very severe infection.							
39.2%	3.0%	0.6%	52.4%	4.4%	0.4%	....	8000
28. Negress, aged 23, large papular, 1 month, did well.							
50.0%	1.8%	3.0%	40.0%	4.6%	0.6%	....	8000
29. Negro, aged 24, large papular, 4 weeks, did well.							
58.8%	1.4%	0.4%	37.2%	1.8%	0.4%	....	7000
30. Negress, aged 19, annular, 4 weeks, did well.							
53.8%	2.8%	2.8%	36.8%	3.2%	0.6%	....	12000
31. White female, aged 36, severe macular, 6 weeks.							
70.8%	1.6%	2.8%	18.0%	6.8%	....	....	7000
32. Negro, aged 14, follicular lesions, 4 weeks, severe, did well.							
73.0%	4.6%	0.6%	19.6%	1.8%	0.2%	....	22000
33. Negress, aged 16, condylomata, 1 month, did well.							
64.4%	5.6%	1.2%	23.4%	5.0%	0.2%	....	10000
34. Negress, aged 18, condylomata, 1 month, did badly.							
64.2%	6.8%	....	23.6%	4.2%	1.2%	....	14600
35. Negro, aged 26, pustular, 5 weeks, very resistant.							
63.2%	7.0%	0.6%	27.8%	1.2%	0.2%	....	9000
36. Negress, aged 24, pustular, 4 weeks, did well.							
36.6%	1.0%	1.4%	57.4%	3.6%	....	....	10000
37. Negro, aged 35, pustular, 4 weeks, generally prostrated, lesions not very severe.							
74.0%	1.2%	0.6%	21.6%	2.2%	0.4%	....	19000
38. Negro, aged 24, papular, 4 weeks, very mild.							
48.0%	7.6%	0.4%	42.0%	1.2%	0.8%	....	8000
39. Negress, aged 36, papular, 4 weeks, generally ill, iritis.							
58.0%	1.4%	0.6%	36.2%	3.2%	0.6%	....	16000
40. Negro male, aged 25, small papular, 4 weeks, mild.							
70.0%	....	3.4%	19.2%	6.8%	0.6%	....	16000

CASES OF SECONDARY SYPHILIS IN WHICH THE ERUPTION HAS  
BEEN MANIFEST SEVEN TO TWELVE WEEKS INCLUSIVE  
AND IN WHICH THERE HAD BEEN NO TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
41. Negro, male, aged 24, small papules, 3 months, many enlarged glands.							
58.2%	8.0%	1.8%	29.0%	2.2%	0.8%	....	.....
42. White male, aged 30, papular, 2 months.							
67.4%	1.6%	1.0%	28.2%	1.6%	0.2%	....	.....
43. Negro male, aged 23, papular, 3 months, severe.							
72.4%	0.8%	2.4%	21.8%	2.0%	0.6%	....	.....
44. Negro male, aged 26, papular, 3 months, severe eruption, did badly.							
79.0%	5.8%	1.0%	12.0%	2.0%	0.2%	....	18000
45. White male, aged 17, macular, 2 months.							
71.6%	1.8%	2.2%	21.4%	2.8%	0.2%	....	.....
46. White female, 22, macular, 3 months, moderate.							
65.0%	1.2%	0.2%	32.6%	1.4%	0.6%	....	9000
47. Negro male, aged 30, annular, 2 months, no treatment, moderate.							
46.2%	3.2%	0.2%	48.2%	2.2%	....	....	18000
48. Negro male, aged 30, large papular, for two months, did well.							
35.0%	2.6%	1.0%	55.6%	5.0%	0.8%	....	14000
49. Negro female, aged 25, mucous patches and glands, 2 months, did well.							
73.4%	0.2%	0.6%	23.8%	1.0%	1.0%	....	14000
50. Negro male, aged 22, papulo-squamous, 7 weeks, did well.							
63.2%	2.4%	....	33.6%	0.4%	....	....	15000

CASES OF SECONDARY SYPHILIS IN WHICH THE ERUPTION HAS  
BEEN MANIFEST OVER THREE MONTHS TO ONE YEAR AND  
WHICH HAVE HAD NO TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
51. Negro female, aged 20, small pustular, 4 months.							
54.0%	0.8%	0.6%	38.6%	5.2%	0.8%	....	10000
52. Negro male, aged 24, small papules, 4 months, big glands.							
50.2%	1.4%	1.4%	45.0%	1.4%	0.6%	....	.....
53. Negro male, aged 28, small papules, 5 months.							
55.0%	1.4%	1.8%	38.2%	3.2%	0.4%	....	.....

CASES OF SYPHILIS WHERE THE INFECTION OCCURRED FROM  
ONE TO FIVE YEARS AGO AND IN WHICH THERE HAS  
BEEN NO RECENT TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
54. Negro female, aged 35, secondaries 2 years ago. Recurrent macular eruption and general glandular enlargement.							
62.5%	1.5%	1.0%	30.0%	4.0%	1.0%	....	7000
55. Negro male, aged 25, infection 2 years ago, spasmodic treatment, recurrent papular eruption for 2 weeks.							
50.0%	2.0%	0.6%	43.0%	3.0%	0.8%	....	7000

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
56. Negro female, aged 30, tertiary serpiginous lesions for three months, chancre 3 years ago.							
50.8%	3.0%	0.6%	37.6%	7.8%	0.2%	....	.....
57. White female, aged 27, nodular lesions of forehead, 1 year, infection probably 4 years ago.							
63.4%	0.6%	0.8%	30.6%	4.0%	0.6%	....	10000
58. Negro male, aged 23, nodular lesions of scrotum, 3 months, chancre 4 years ago.							
65.6%	0.8%	0.4%	29.6%	3.2%	0.4%	....	11900
59. White male, aged 28, gumma for 2 years, infection 4 years.							
67.0%	1.0%	0.8%	30.4%	0.6%	0.2%	....	.....
60. Negro male, aged 33, gumma of leg, 7 weeks, infection 5 years.							
55.0%	0.6%	0.6%	39.2%	3.4%	1.2%	....	10000
61. Negro male, aged 39, ulceration of throat, lues 4 years.							
47.0%	2.5%	1.0%	43.5%	5.0%	1.0%	....	7000

CASES OF SYPHILIS OF OVER SIX YEARS' STANDING AND IN WHICH THERE HAS BEEN NO RECENT TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
62. White male, aged 57, tabes, 10 years, positive Wassermann.							
65.6%	0.8%	0.8%	29.2%	3.0%	0.6%	....	8000
63. Negro male, aged 35, chancre 8 years ago, condylomata 2 weeks.							
55.6%	1.4%	0.8%	39.2%	2.8%	0.2%	....	9000
64. White male, aged 47, early palmar syphilis following chancre 8 years ago, enlarged cervical and bronchial glands. Hb. 50%							
66.0%	1.0%	....	31.0%	1.0%	1.0%	....	17000
65. White male, aged 48, secondaries 15 years ago, nodular lues.							
53.6%	1.8%	2.0%	39.2%	3.0%	0.4%	....	8000
66. Negro male, aged 54, gumma of shoulder, 6 months, date of infection indefinite.							
63.4%	1.2%	0.6%	33.8%	0.8%	0.2%	....	8000
67. Negress, aged 44, gumma of leg, 1 year, infection early in life.							
48.0%	3.4%	1.8%	42.6%	3.8%	0.4%	....	7000
68. Negro male, aged 22, infection 7 years ago, gumma for 4 months.							
64.8%	0.2%	0.8%	32.0%	1.8%	0.4%	....	12000
69. Negro male, aged 50, severe gummata, 8 months, infection 20 years ago.							
67.4%	0.4%	2.4%	23.2%	5.8%	0.8%	....	10000
70. Negro male, aged 34, gummata of leg, 8 months, infection 6 years ago.							
59.2%	2.6%	2.2%	30.6%	5.0%	0.4%	....	10000
71. Negro male, aged 43, gummata, infection many years ago.							
68.8%	0.8%	0.8%	26.6%	3.0%	....	....	7000
72. Negro female, aged 35, gumma, 6 months, lues 6 years ago.							
72.5%	4.5%	0.5%	20.5%	1.5%	0.5%	....	9000
73. Negro male, aged 60, nodular lesions, 6 years, infection indefinite.							
52.0%	2.0%	1.0%	45.0%	5.0%	....	....	8000
74. Negress, aged 35, gumma of nose, 2 months, old infection.							
49.0%	3.8%	....	45.0%	2.2%	....	....	10000

CASES OF SECONDARY SYPHILIS IN WHICH THE ERUPTION HAS  
BEEN MANIFEST FROM ONE TO THREE WEEKS INCLUSIVE  
AND WHICH HAVE RECEIVED TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
75. Negress, aged 19, condylomata, 2 weeks, treated 1 week, mixed treatment.							
57.6%	3.4%	....	37.4%	1.4%	0.2%	....	7000
9. White male, aged 28, chancre 1 year ago, lesions 1 week, then an intra- muscular injection of salvarsan, lesions disappeared 10 days later.							
73.4%	0.4%	0.2%	21.6%	3.0%	1.4%	....	18000
76. Negress, aged 22, lesions, small papular for two weeks, 1 week's treat- ment with succinimide injections, case proved very stubborn.							
73.0%	2.4%	3.2%	17.4%	4.0%	....	....	17000
8. Negro, aged 27, annular, one week, then "606" intramuscularly, one day after injection.							
55.2%	0.8%	0.2%	40.2%	3.4%	0.2%	....	17300
8. Same case three days later.							
51.4%	1.6%	0.4%	41.8%	4.0%	0.8%	....	12000

CASES OF SECONDARY SYPHILIS WHICH HAVE BEEN MANIFEST  
FOUR TO SIX WEEKS INCLUSIVE AND WHICH  
HAVE RECEIVED TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
77. Negro, aged 25, papular for 6 weeks, mixed treatment for 4 weeks, with severe salivation, no treatment for one week.							
56.0%	2.0%	1.2%	33.0%	7.4%	0.4%	....	10000
78. Negro, aged 30, small papular, 1 month, inunctions for one week.							
41.08%	2.8%	0.4%	52.8%	1.8%	0.4%	....	15000
8. Negro, aged 27, annular, one week, then "606," this count 4 weeks after salvarsan.							
47.0%	2.0%	2.0%	46.2%	3.4%	0.4%	....	10000
15. Negro, aged 27, annular, 1 week, 2 weeks later under protiodide pills.							
40.4%	2.6%	1.0%	50.8%	3.2%	2.0%	....	12000
79. Negro, aged 23, follicular lesions, 5 weeks' steady treatment, mixed.							
49.8%	1.4%	0.4%	46.0%	1.8%	0.6%	....	13400
80. Negro, aged 18, follicular, 4 weeks, mixed treatment 2 weeks, good results.							
78.4%	0.4%	0.2%	19.0%	1.8%	0.2%	....	18000
32. Negro, aged 14, follicular lesions, 5½ weeks, 10 days' protiodide treatment.							
52.8%	6.0%	0.6%	36.6%	3.6%	0.4%	....	16000
12. Negro, aged 24, small pustules for 4 weeks, treatment 3 weeks with suc- cinimide injections.							
61.8%	4.0%	0.8%	30.8%	2.6%	....	....	12600
5. Negress, aged 21, small papular, 4 weeks, 3 weeks of injections of succini- mide.							
48.6%	1.8%	0.6%	44.0%	4.8%	0.2%	....	10000

CASES OF SYPHILIS IN WHICH THE ERUPTION HAS BEEN PRESENT SEVEN TO TWELVE WEEKS INCLUSIVE AND WHICH HAVE RECEIVED TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
36. Negress, aged 24, small pustular, 8 weeks, 8 injections of salicylate in 1 month.							
36.6%	2.4%	1.0%	57.6%	2.0%	0.4%	....	9000
31. White female, aged 36, severe macular, 12 weeks, 6 weeks of salicylate injections.							
53.8%	3.4%	1.2%	34.0%	7.6%	....	....	12000
34. Negress, aged 18, condylomata 8 weeks, mixed treatment 3 weeks.							
57.0%	3.4%	0.4%	35.2%	3.4%	0.6%	....	8100
34. Same case two weeks later on large doses potassium iodide.							
61.8%	1.0%	0.2%	34.4%	2.4%	0.2%	....	14400
21. White male, aged 27, macular, 7 weeks, 5 weeks of injections of salicylate, yet suffering with relapse of 1 week's duration.							
60.0%	1.8%	0.2%	34.4%	3.4%	0.2%	....	.....
21. Four weeks later, steady salicylate treatment, lesions nearly gone.							
51.0%	1.8%	0.6%	40.8%	4.8%	1.0%	....	15000
32. Negro, aged 14, follicular, 7 weeks, mixed treatment 3 weeks.							
61.6%	4.6%	1.2%	28.8%	3.2%	0.6%	....	12000
32. Same case after 1 week more on potassium iodide.							
55.0%	4.8%	0.6%	34.2%	5.0%	0.4%	....	12000
17. Negress, aged 30, annular, 9 weeks, 6 weeks' protiodide treatment.							
28.2%	5.0%	0.2%	65.2%	1.2%	0.2%	....	8000
15. Negro, aged 27, annular, 9 weeks, protiodide 8 weeks.							
54.6%	1.8%	1.4%	37.6%	4.4%	0.2%	....	9000
81. Negro, aged 22, papulo-squamous, 7 weeks, some protiodide.							
63.2%	2.4%	....	33.6%	0.4%	....	....	15000
82. White female, aged 30, papular lesions for 2 months, steady mixed treatment.							
35.2%	6.8%	0.6%	55.2%	1.6%	0.6%	....	9000
83. White male, aged 25, macular, 7 weeks, mixed treatment 2 weeks, unimproved.							
67.2%	1.2%	0.4%	29.2%	2.0%	....	....	8000
84. Negress, aged 24, papular lesions for 8 weeks, despite injections of salicylate for 7 weeks.							
63.6%	0.6%	2.6%	37.2%	5.8%	0.2%	....	10000

CASES OF SECONDARY SYPHILIS IN WHICH THE MANIFESTATIONS APPEARED FROM TWELVE WEEKS TO ONE YEAR AGO AND WHICH HAVE RECEIVED TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
85. White male, aged 30, papular, of arms for 3 months, 2 months of mixed treatment, lesions yielding slowly.							
67.6%	1.2%	1.8%	24.8%	3.2%	1.4%	....	9000
85. Same case after another month of same treatment. Better.							
56.6%	2.2%	0.4%	37.8%	3.0%	....	....	8000

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
36. Negress, aged 24, pustular, 3 months, better, from two months of salicylate injections.							
30.4%	2.6%	2.0%	65.2%	1.2%	0.4%	....	12000
36. Same case 3 weeks later, same treatment.							
40.2%	1.4%	0.6%	55.2%	2.4%	0.2%	....	10000
36. Same case two months later, after continued treatment, lesions gone.							
48.4%	2.4%	0.4%	45.2%	3.2%	0.4%	....	8000
35. Negro male, aged 26, pustular lues, 7 months, mixed treatment for 6 months. Well.							
48.5%	3.0%	....	47.5%	1.0%	....	....	9000
44. Negro male, aged 26, papular, 4 months, salvarsan 3 weeks ago, better.							
57.2%	5.8%	1.0%	33.2%	2.8%	....	....	10000
86. Negro, aged 30, annular for 4 months, mercury by mouth irregularly.							
55.6%	1.8%	0.8%	37.6%	3.4%	0.8%	....	10000
17. Negress aged 30, annular, 4 months, 3 months on protiodide.							
31.4%	2.0%	0.4%	61.2%	3.8%	1.2%	....	10000
87. Negress, aged 19, annular, 4 months, 2 months of irregular mixed treatment.							
47.0%	3.2%	1.6%	42.6%	4.0%	1.6%	....	7000
88. Negro, aged 30, annular for 6 months, recurrence after very irregular mixed treatment.							
58.0%	5.6%	0.2%	34.0%	1.6%	0.6%	....	10000
89. White male, aged 30, 8 months, mixed treatment for macular eruption, no lesions.							
48.8%	3.6%	0.4%	38.0%	8.4%	0.8%	....	9000
90. White female, aged 35, mucous patches despite 10 months' mixed treatment.							
57.4%	1.2%	0.4%	38.0%	2.8%	0.2%	....	8000
91. Negro, aged 25, syphilis, glands and throat, 4 months' protiodide treatment.							
64.6%	1.8%	0.8%	29.6%	3.2%	....	....	8000
92. White male, aged 60, lesions for 6 months, mixed treatment, now has mucous patches.							
67.2%	2.6%	1.2%	24.4%	4.2%	0.4%	....	10000
31. White female, aged 36, macular, 5 months, treatment by salicylate injections for 4½ months, lesions nearly gone.							
57.0%	2.8%	0.8%	37.0%	1.8%	1.0%	....	9000
93. White male, aged 27, severe macular, 6 months, despite mercury by mouth, 10 days after salvarsan, improving.							
60.0%	4.6%	0.2%	32.0%	2.8%	0.4%	....	10000
94. Negro male, aged 25, macular for 6 months despite mixed treatment.							
54.6%	1.4%	0.2%	41.0%	2.4%	0.4%	....	10000
48. Negro, male, aged 30, large papular, 2 months, 1 month of mixed treatment.							
65.2%	1.8%	....	31.0%	1.6%	0.4%	....	14000



# THE LEUCOCYTES IN SYPHILIS

747

## CASES OF SYPHILIS IN WHICH THE INFECTION OCCURRED FROM ONE TO FIVE YEARS AGO AND IN WHICH THERE HAS BEEN MUCH RECENT TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
57. White female, aged 27, after 3 weeks of injections with salicylate.							
70.4%	1.4%	0.6%	25.6%	1.8%	0.2%	....	8000
95. White female, aged 33, nodular lesions of forehead, 3 years, despite 8 injections of salicylate, not improved.							
66.6%	1.8%	0.6%	27.6%	3.4%	....	....	8000
95. Same case after 4 more injections at bi-weekly intervals, much better.							
66.6%	0.4%	0.2%	30.4%	2.4%	....	....	8000
96. White female, aged 35, nodular lues of face despite 18 months of mixed treatment, infection about 5 years ago.							
46.8%	2.8%	0.8%	46.4%	2.8%	0.4%	....	7000
97. Negro female, aged 23, nodular lesions, 1 year, mixed treatment 2 months, infection about 3 years ago.							
60.4%	2.0%	1.2%	29.6%	6.4%	0.4%	....	8000
98. White male, aged 35, gumma, 4 months, 8 months of mixed treatment, infection 3 years.							
50.0%	3.2%	0.4%	42.4%	3.6%	0.4%	....	10000
99. White male, aged 35, multiple gummata, 6 weeks' mixed treatment, infection 4 years.							
46.0%	0.4%	0.4%	50.0%	2.6%	0.6%	....	8000
99. Negro male, aged 26, large papular, 19 months ago, steady treatment, mixed.							
33.2%	0.8%	1.6%	61.6%	2.8%	....	....	12000
24. Negro male, aged 24, infection 2 years ago, steady protiodide treatment.							
53.2%	2.0%	0.4%	42.0%	2.0%	0.4%	....	7000
62. Negro male, aged 39, gumma of mouth, infection 4 years ago, 12 days after "606," much better.							
62.5%	1.0%	0.6%	34.0%	2.0%	....	....	7000
100. White male, aged 27, macular, 18 months ago, much treatment, mucous patches.							
65.6%	3.2%	0.4%	20.4%	10.4%	....	....	10000

## CASES OF SYPHILIS IN WHICH THE INFECTION OCCURRED FROM THREE TO FIVE YEARS AGO AND IN WHICH THERE HAS BEEN MUCH RECENT TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
101. Negress, aged 35, iritis and rheumatism, 3 months in spite of mercury, infection about 5 years ago.							
39.2%	5.0%	....	54.0%	1.2%	0.6%	....	8000
101. Same case 12 days after intramuscular salvarsan, better.							
44.0%	1.4%	1.0%	52.2%	1.4%	1 nuc. red cell.	....	9000
102. White male, aged 25, lues 2 years, steady mixed treatment, no lesions.							
72.6%	2.8%	0.2%	22.8%	1.4%	0.2%	....	8000
103. Negro male, aged 30, lues 4 years ago, mixed treatment, irregular, hemiplegia.							
70.2%	2.6%	....	25.2%	1.8%	0.2%	....	18300

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
103. Same case 9 days after intramuscular salvarsan.							
67.0%	2.6%	0.2%	27.6%	2.6%	....	....	15000
104. White male, aged 42, mixed treatment, 4 years, no lesions.							
57.6%	0.8%	....	41.2%	0.4%	....	....	8000
105. Negro male, aged 30, papular eruption 5 years ago, steady treatment, mixed.							
54.8%	0.8%	0.4%	41.6%	2.0%	0.4%	....	7000
5. Negress, aged 21, papular eruption 18 months ago, fairly steady treatment, lesions just disappearing.							
45.6%	1.8%	0.2%	48.0%	3.6%	0.8%	....	8000
106. White male, aged 22, infection 14 months ago, palmar lues despite steady mixed treatment.							
71.0%	3.4%	0.4%	22.4%	2.4%	0.4%	....	8000
107. White female, aged 25, wife of above, infection 14 months ago, steady treatment, but an ulceration, despite "606" 3 weeks ago.							
69.4%	3.2%	0.6%	21.4%	5.0%	0.4%	....	8000
108. White female, aged 35, lues 3 years ago, mixed treatment, no lesions.							
82.0%	0.2%	....	17.6%	0.2%	....	....	15000

CASES OF SYPHILIS OF OVER SIX YEARS' STANDING WHICH HAVE RECEIVED MUCH RECENT TREATMENT.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
109. Negress, aged 40, syphilis 10 years ago, since then steady treatment.							
58.4%	1.0%	1.0%	35.4%	3.8%	0.4%	....	10000
62. White male, aged 57, tabes, 3 days after salvarsan, intramuscularly.							
60.0%	0.8%	0.6%	36.2%	2.0%	0.4%	....	12000
63. Negro male, aged 35, chancre 8 years ago, condylomata, 10 days after "606."							
49.8%	4.0%	1.4%	41.4%	2.8%	0.6%	....	10000
110. White female, aged 36, palmar lues, 10 years, 6 months of salicylate injections.							
61.0%	1.4%	0.4%	33.4%	2.2%	1.6%	....	7000
110. Same case 1 year later, same lesions, intermittent treatment.							
64.0%	1.4%	1.0%	28.0%	4.0%	0.2%	....	8000
110. Same case 2 weeks after "606," improving.							
66.2%	1.2%	0.4%	29.0%	2.4%	0.8%	....	9000
64. White male, aged 47, early palmar lues, 8 days after "606."							
68.0%	0.8%	0.8%	28.0%	2.4%	....	....	15000
111. White male, aged 48, chancre 6 years ago, since then steady mixed treatment, leukoplakia and fissures of tongue.							
56.6%	3.2%	0.2%	38.6%	1.4%	....	....	9000
112. White male, aged 33, infection 8 years ago, leukoplakia 5 months, mixed treatment.							
64.0%	1.4%	0.2%	31.0%	2.4%	1.0%	....	10000
113. White male, aged 66, chancre 48 years ago, nodes on legs. Potassium iodide only.							
65.0%	0.6%	0.6%	30.2%	3.6%	....	....	11000

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
65. White male, aged 48, secondaries 15 years ago, 4 weeks' treatment with succinimide.							
44.0%	2.4%	0.6%	51.6%	0.6%	0.8%	....	9000
114. Negro male, aged 45, intractable nodular lesions of hands and face, potassium iodide for 18 months.							
42.2%	3.8%	1.8%	47.8%	3.6%	0.8%	....	8000
114. Same case after weekly injections of calomel for three months.							
63.2%	4.8%	2.0%	23.6%	5.0%	1.4%	....	8000
114. Same case two weeks after salvarsan.							
35.2%	4.6%	2.0%	53.2%	4.4%	0.6%	....	9000
115. Negress, aged 40, gumma of arm, infection 8 years ago, mixed treatment.							
50.6%	1.2%	2.0%	40.6%	5.2%	0.4%	....	10000
116. Negro male, aged 54, gumma of nose, infection 3 years ago, mixed treatment.							
66.0%	0.6%	1.0%	28.8%	3.6%	....	....	7000
70. Negro male, aged 50, gummata, 8 months, after two weeks of inunctions, a little better, case proved very resistant.							
60.2%	2.8%	0.4%	33.6%	2.6%	0.4%	....	8000
117. Negress, aged 40, multiple gummata, 3 months, much mercury, infection 8 years ago.							
49.6%	2.4%	0.8%	45.4%	1.8%	....	....	11000
117. Three days after "606," much better.							
51.8%	1.0%	2.0%	41.2%	3.8%	0.2%	....	13000
118. Negress, aged 35, gummata of knee, pus, some mercury, old infection.							
70.4%	1.2%	0.2%	22.2%	5.4%	0.6%	Many nucleated reds.	20000
118. Same case 17 days after "606," no improvement.							
57.0%	1.0%	7.0%	25.0%	10.0%	Many nucleated reds	....	9000
75. Negress, aged 35, gummata of nose, 2 months, salicylate for 2 weeks, better.							
56.6%	4.2%	0.6%	35.2%	3.0%	0.4%	....	9000
119. White female, aged 35, gummata, several months, mixed treatment, infection of 8 years' standing.							
60.0%	2.2%	0.2%	30.6%	4.0%	1.8%	....	8000
120. White male, aged 45, gummata, mixed treatment, infection 10 years ago.							
71.0%	2.6%	0.8%	21.0%	4.0%	0.6%	....	15000

## HEREDITARY SYPHILIS.

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
121. Negro female, aged 2½ years, some treatment about 2 years ago, good general condition, ulceration of nose, 4 inunctions.							
52.8%	7.4%	2.0%	35.0%	2.8%	....	....	17000
122. Negro male, aged 4 years, underdeveloped, cannot walk or talk, 5 inunctions.							
36.2%	1.8%	1.6%	57.0%	2.8%	0.6%	....	16000
123. Female, aged 13, present lesions about 2 years, healing and breaking down, in spite of salivation.							
65.4%	3.0%	1.2%	25.0%	5.2%	0.2%	....	9000

Polys.	Eosins.	Large mono.	Small mono.	Trans.	Mast.	Myeloc.	W.B.C.
123. Same case, 4 days after injection with .4 gm. "606," improving.							
55.8%	7.0%	....	34.2%	2.4%	0.6%	....	13000
123. Same case, 6 days later, improving.							
63.8%	4.6%	....	29.2%	1.6%	0.8%	....	20000
124. Female, aged 18, hereditary syphilis of nose, gummata for 18 months, no treatment.							
60.0%	2.8%	0.8%	33.8%	2.4%	0.2%	....	8000
124. Same case, 10 days after. 3 gm. "606."							
71.0%	1.8%	0.4%	25.6%	0.8%	0.4%	....	12000
125. Negro male, aged 16, interstitial keratitis, acute, and Hutchinson's teeth.							
54.0%	0.8%	1.2%	40.0%	3.2%	0.8%	....	8000

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## CLINICAL REPORT.

## CIRCINATE SYPHILIDE SIMULATING PITYRIASIS ROSEA.

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THAT certain types of cutaneous syphilis and pityriasis rosea may offer difficulties in differential diagnosis is, of course, an established fact. Assuming that pityriasis rosea can provide a multiformity of lesions (Wise, *Med. Rec.*, May 11, 1907), there being at times macular, papular, maculo-papular and even pseudo-vesicular (Wile, *Med. Jour.*, New York, 1909, xc, No. 20, p. 962) elements, which may be smooth, slightly or very scaly, pruritic or non-pruritic, it is not surprising that this

PLATE XXVI.—To Illustrate Article on Circinate Syphilide, by DR. GEORGE M. MACKEE and DR. E. J. SNYDER.

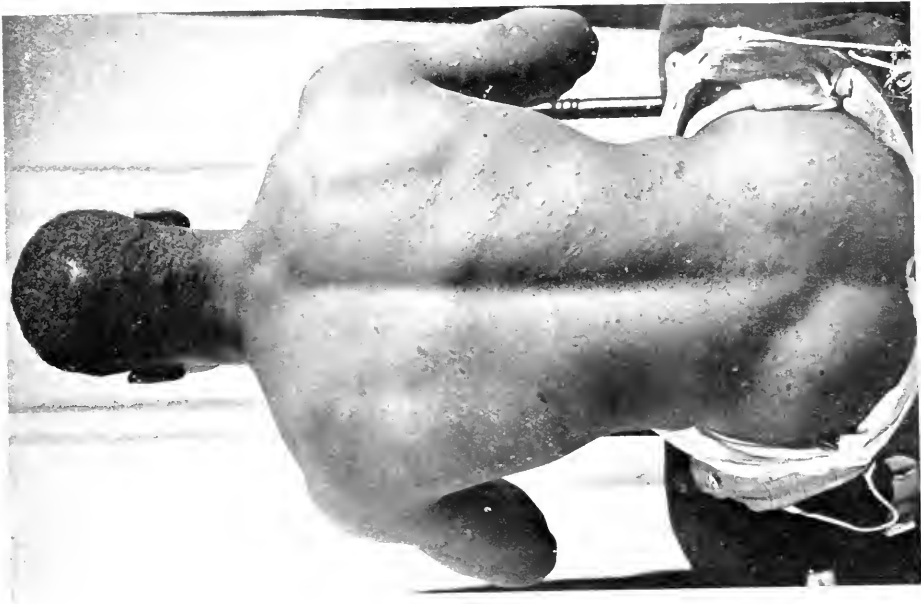


Fig. 2. Case 2.  
Circinate Syphilide.



Fig. 1. Case 1.  
Circinate Syphilide.



PLATE XXVII.—To Illustrate Article on Circinate Syphilide, by DR. GEORGE M.  
MACKEE and DR. E. J. SNYDER.

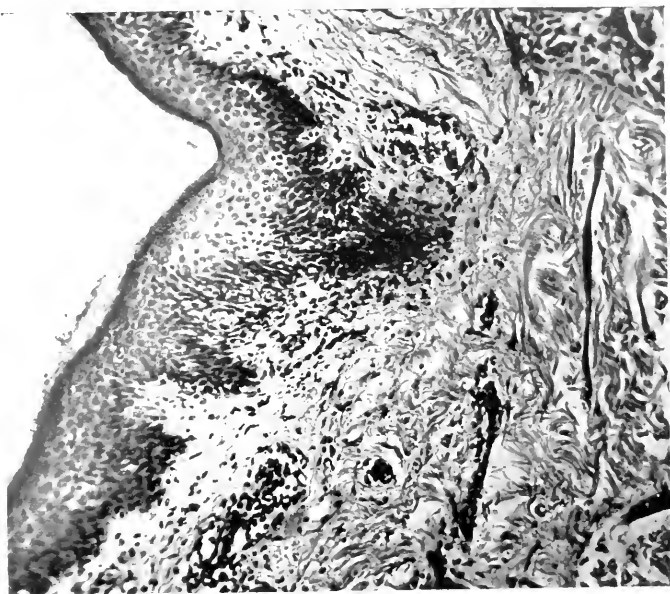


Fig. 4. Case 1.  
Circinate Syphilide.

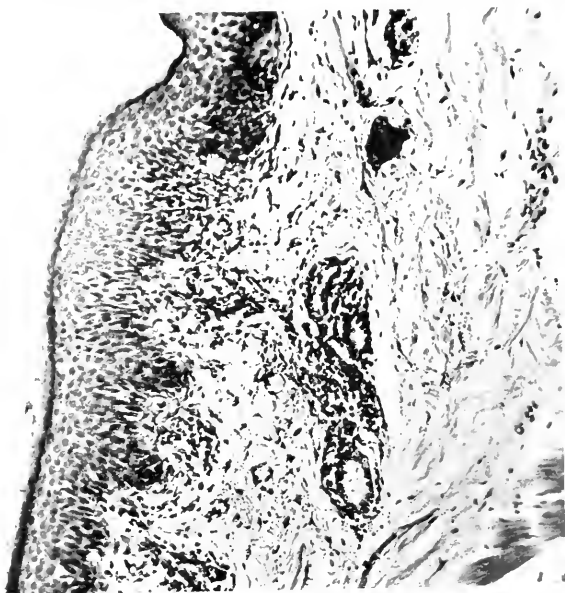


Fig. 3. Case 1.  
Circinate Syphilide.





disease is often confused with syphilis, ringworm and seborrhœic dermatitis.

Not infrequently, acknowledged syphilitics, exhibiting an eruption of the pityriasis rosea type, are presented at the various dermatological societies with a diagnosis of a combination of the two diseases. In many of these instances the clinical picture is certainly that of pityriasis rosea, but in view of the fact that the two dermatoses may so closely resemble one another, it would be interesting and instructive to obtain histopathological examinations in such cases.

Without entering further into a discussion of the similarities and differences of the two diseases, we desire to report two cases of syphilis that presented eruptions that very closely simulated pityriasis rosea.

#### CASE 1.

W. S.; male; white; married; 32 years of age; occupation, fireman; born in the United States; entered Dr. Fordyce's clinic on Aug. 28, 1913.

PAST HISTORY. In February, 1913, a penile chancre developed, which was followed by a generalized, non-pruritic, maculo-papular eruption, the lesions appearing on the palms, soles and face, as well as on the trunk and limbs. He was given "mixed treatment," which he took for several months. As a result of this treatment the lesions disappeared from the face, trunk and limbs, but not from the palms and soles.

Three weeks previous to his first visit to the Vanderbilt Clinic, he noticed two pale-red macules on the abdomen and one on the right arm, just above the elbow. They were the size of a ten-cent piece. They were not scaly. Within a week similar spots appeared on the chest, abdomen and back; and new lesions continued to develop up to the time he entered the clinic.

PRESENT CONDITION. The palms and soles exhibit sharply margined, gyrate and circinate, dark-red, scaly lesions, ranging in size from a ten-cent piece to a silver dollar (Fig. 1). The scales are large, adherent and horny in character. On the extensor surface of the left forearm there are a number of dark-red, smooth nodules arranged in a group which has a serpiginous configuration. A similar group is noticed on the outer surface of the left thigh. There is a "split papule" at the left commissure of the mouth (Fig. 1) and mucous patches on the tongue and buccal surfaces of the cheeks. The wrists and the legs, above the knees, show pigmentary remains of former lesions. A hard scar on the prepuce marks the site of the chancre. General adenopathy is present. The palmar and plantar lesions had been present since March, the nodular lesions on the arm and thigh since May and the patient had complained of occasional mouth lesions ever since the first evidence of constitutional syphilis.

Scattered over the chest, abdomen, upper arms and back, are innumerable macules and maculo-papules which range in size from a pinhead to a twenty-five-cent piece (Fig. 1). They are all circular in outline. The very small ones are solid, the split-pea-sized lesions are beginning to clear in the centre, while the larger ones are distinctly circinate. The small, solid lesions are rose in color, while the larger ones have a rose-colored border and a yellowish or fawn-colored centre. Some of the lesions are distinctly perceptible to the touch, others are barely so, while still others are not appreciably elevated above the niveau. There is a slight branny scaliness of the margins of the lesions. The centres are not scaly, but many of them exhibit a delicate wrinkling. The lesions are extremely superficial in appearance. The face is not involved, nor are the extremities below the knees and elbows. Mild itching is complained of.

The circinate eruption entirely disappeared in about two weeks, apparently as a result of intramuscular injections of the salicylate of mercury. There was no pigmentation remaining. The mouth lesions and the eruption on the palms and soles are still present, although improved. The Wassermann reaction, performed by Dr. Ogilvie, is positive.

This circinate eruption was so similar clinically to pityriasis rosea and the case was so strikingly like examples of combined syphilis and pityriasis rosea shown at dermatological societies, that we decided to make a histopathological examination.

#### HISTOPATHOLOGICAL REPORT.

(Figs. 3 and 4.)

The specimen, removed from the back, included the margin and part of the centre of a circinate lesion and the adjacent normal skin. It was removed by blocking the nerves with a  $\frac{1}{2}\%$  cocaine solution; fixed in formaldehyde, dehydrated in acetone, imbedded and cut in paraffine. The sections were stained with hæmatoxylin-eosin, polychrome-methylene blue, Unna's stain for elastic fibres and Levaditi's stain.

The stratum lucidum shows no change. There is a moderate small-celled infiltration, with some dilatation of the lymph spaces throughout the deeper layers of the epithelium. In some areas, this extends to the stratum lucidum. The stratum granulosum and germinativum show scattered areas of cloudy swelling and fatty degeneration, with œdema of the surrounding cells. There are areas of red-blood-cell infiltrations extending from the pars papillaris, where, in localized areas it is very pronounced, into the epithelium, as far as the stratum lucidum, the epithelial cells being widely separated by this infiltration. These areas correspond to the circinate margin of the lesion. The most pronounced changes are found in the pars papillaris, where the blood vessels are congested, some of them showing œdema, being filled with serum. The lymph spaces are dilated; there is a beginning proliferation of endothelial as well as of perithelial cells, while around the vessels there is a very extensive small-celled infiltration, consisting of mononuclear leucocytes. This is very pronounced in the pars papillaris, but in the pars reticularis it is found in a lesser degree. This small-celled infiltration is so extensive in some of the papillary bodies, that the stratum germinativum and stratum granulosum are replaced by these infiltrating cells. The smaller blood vessels show this infiltration, as well as the larger ones.

Scattered throughout the pars papillaris and the pars reticularis are found numerous, large plasma cells, these being more numerous around the infiltrated areas, surrounding the blood vessels; also, red blood cells are quite widely distributed; a few mast cells are also present.

There is some evidence of a previous pathological condition, manifested by the hæmolised red blood cells and pigment, probably dating from early secondaries; this is found in both the pars papillaris and pars reticularis.

The elastic tissue is normal.

After a careful examination of many sections, stained by Levaditi's method, it was impossible to find any spirochætae.

The histopathological study eliminates the possibility of pityriasis rosea and it, together with the clinical findings, would appear to warrant a diagnosis of syphilide.

## CASE 2.

M. B.; male; colored; single; 30 years of age; occupation, porter; born in the United States; entered Dr. Fordyce's clinic on June 15, 1913.

**PAST HISTORY.** The patient denied syphilis. A history of previous cutaneous lesions was denied. Two weeks before entering the Vanderbilt clinic, the patient noticed several dime-sized, scaly, circinate lesions on the chest. The eruption then rapidly spread over the abdomen, chest and back. Information relative to the possibility of a primary efflorescence could not be obtained.

**PRESENT CONDITION.** On the back, chest, abdomen and upper arms, are numerous circinate papules, ranging in size from a pinhead to a fifty-cent piece (Fig. 2). The centres are not scaly, but are wrinkled and are a little darker than the normal skin. The borders are markedly scaly. In some regions two or more lesions coalesce to form a gyrate patch. The very small papules—those the size of the head of a pin—are solid and slightly scaly. There is very little infiltration, the eruption appearing to be very superficial. Moderate pruritus is complained of. The face, legs, arms below the elbows and mouth are free of lesions. There is a general adenitis. No evidence of a previous chancre can be found. The eruption disappeared in about two weeks, apparently the result of intramuscular injections of the salicylate of mercury. A biopsy was refused. The Wassermann reaction, performed by Dr. Ogilvie, is strongly positive.

It is obvious that one might produce arguments both for and against this case being one of cutaneous syphilis. While it was probably a case of syphilis and not syphilis combined with pityriasis rosea, such an opinion cannot be said to have been definitely proved.

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## SPECIAL REPORT.

### THE 17TH INTERNATIONAL CONGRESS OF MEDICINE; DERMATOLOGICAL SECTION.

By HOWARD FOX, M.D., New York.

**A**T the request of the editor of THE JOURNAL, I have undertaken to give a brief report of some of the things I saw and heard at the recent meeting in London. The Congress as a whole was certainly a huge affair and as far as I could judge, a great success. There were about 7,500 physicians present, while if the families of the visitors are included, the attendance at the Congress would surely be in the neighborhood of 10,000 people. The Congress was formally opened on Wednesday, Aug. 6, 1913, and lasted until noon of the following Tuesday. The fact that the sessions were broken up by an intervening Sunday did not seem to lessen the attendance or interest. In the case of the Section on Dermatology and Syphilography this was certainly so, as one of the most important and enthusiastic meetings was held on Monday morning, August 11th.

The Congress was formally opened at Albert Hall by Prince Albert of Connaught, representing King George, the patron of the meetings. Sir Edward Grey followed with a speech of welcome on behalf of the Government, after which an address was given by Sir Thomas Barlow, the President of the Congress. The latter reviewed the immense progress that had taken place since the last International Congress of Medicine, which had been held in London in 1881. On that occasion Sir James Paget had occupied the presidential chair and the list of those in attendance included such immortal names as Pasteur, Virchow, Lister, Koch, Huxley, Volkmann, Esmarch and Charcot. It also included the late Sir Jonathan Hutchinson, who was on that occasion the organizer of the Clinical and Pathological Museum of the Congress. The impressiveness of the occasion was increased by the presence of some of the military delegates in full uniform.

The opening meeting of the Section on Dermatology and Syphilography was held on Wednesday afternoon, Sir Malcolm Morris delivering the presidential address. He referred to the comparative unimportance of the Section at the Congress in 1881 and said that no one had any idea of the importance bacteriology was destined to take in dermatology. He referred to the epoch-making discoveries of Koch, Schaudinn and Hoffmann and the brilliant researches of Sabouraud upon ringworm. He also discussed the value of X-ray, Finsen ray, radium and carbon dioxide snow in dermatology and, of course, did not fail to pay a tribute to the great triumph of Ehrlich in his discovery of salvarsan. Following the President's address, some brief remarks were made by a number of those present, Dr. Fordyce responding for the United States.

The meetings of the Dermatological Section were held in St. Thomas's Hospital, which is beautifully situated on the Thames, opposite the Houses of Parliament. It was fortunate for those who were not familiar with London that not only the reading of papers but also the exhibition of cases took place at the same institution.

Before discussing the cases that were presented and some of the more important papers that were read, it may be of interest to tell of some of the distinguished foreigners who attended our Section. It was impossible to find out the exact attendance at our meetings, as quite a number failed to register in the special book kept for that purpose. It was estimated that in addition to the two hundred whose names were recorded in this book, there were also about a hundred more who were in more or less constant attendance at our Section meetings. This was about the number we had at our International Congress of Dermatology in New York. Quite a number of the foreigners who came to New York at that time were also present in London. These included Prof. Gaucher and Drs. Hallopeau, Gaston, Lévy-Bing, Bertarelli, Peterson, De Keiser and Polland. A list of other distinguished foreigners who attended our Section would include such well-known names in dermatology as those of: Arndt, Balzer, Blaschko, Ciarrochi, Civatte, Darier, Duhot, Dubois-Havenith, Dubreuilh,

Ehlers, Finger, Galloway, Graham-Little, Jadassohn, Jamieson, Joseph, Lane, Lasseur, Leredde, MacLeod, McDonagh, Meirowsky, Malcolm Morris, Nicholas, Nobl, Pelizzari, Pernet, Pontoppidan, Pringle, Rielle, Roberts, Saalfeld, Sabouraud, Sequeira, Ullmann, Unna, Walker, Wickham and Whitfield.

The list of American dermatologists who attended the Congress included Drs. Sherwell, Ravogli, Fordyce, Winfield, Pusey, Bulkley, Hartzell, Gilchrist, Corlett, Wende, Ormsby, Varney, Heidingsfeld, Levisseur, Foerster, Haase, Wile, Lowy and H. Fox; and from Canada, Drs. Shepherd, King-Smith and Lindsay.

One of the most valuable features of the Congress from our standpoint was the fine collection of about ninety cases that we saw. The material was excellent, as might be expected in such an immense city as London, though I do not think it was any more unusual than our exhibition in New York at the Congress in 1907. The cases were shown at six successive demonstrations scattered through the week of the Congress. Typewritten lists of the cases to be exhibited were given to each visitor, while the patients, who were scattered about two well-lighted rooms, were provided with typewritten diagnoses and histories.

While the cases themselves were excellent, there was barely enough time for one man to see all of them. It also seemed rather unfortunate, owing to lack of time, that none of them was discussed except informally. It would certainly have been most instructive, not to say entertaining, to have heard the different opinions of "cases for diagnosis" in different languages.

The following list will perhaps give an idea of the wealth of clinical material which London affords. It includes only the cases that actually appeared at the demonstration as far as I was able to ascertain by personal observation. The titles of the cases were mostly those upon the typewritten diagnosis sheets.

#### THURSDAY MORNING.

- Tricho-epithelioma. Face of a middle-aged woman.
- Sclerodactylia. Boy of 15. Of more interest to some of us was the presence of lesions of angiokeratoma upon the hand, of 11 years' duration.
- Subcutaneous calcinosis. Young girl. Generalized nodules. Accompanying radiograms.
- Xeroderma pigmentosum. Man of 33.
- Symmetrical purple congestion. Early Kaposi's disease (?). Man of 46. Russian Jew. Dorsal surfaces of feet.
- Neuroma plexiforme. Boy of 14. Grouped nodules on thumb and forefinger of left hand. Lesions painless.
- Rodent ulcer. Man of 45. Face.
- Macrochelia. Girl of 15. Both lips. Three years' duration. Considered lupus vulgaris by many who saw the case.
- Lupus erythematosus. Man of 46. Face and trunk.
- Rodent ulcer. Cicatrizing type. Treated with arsenic.

## THURSDAY AFTERNOON.

- Pityriasis rubra pilaris. Girl of 7. Three years' duration. Eruption generalized and typical. History of previous attacks of psoriasis (?) (probably same disease).
- Congenital xanthoma. Girl of 6. Lesions on knees, hands and tendo-Achilles.
- Vascular warty linear naevus. Woman of 27. Back.
- Large sclerosing vascular naevus. Girl of 13. Treated by X-ray.
- Extensive scleroderma. Man of 43.
- Pemphigus vegetans. Man of 54. Seven years' duration. Inguinal regions.
- Lymphangioma circumscriptum. Man of 18. Left side of chest.
- Two cases of mycosis fungoides. Both men.  $2\frac{1}{2}$  years' duration in one case, 17 years' duration in another, X-ray having caused resolution of tumors that appeared from time to time.
- Six cases of rodent ulcer. Cured by X-rays and radium for a number of years. Excellent results.
- Lupus verrucosus. Young man. Buttocks.
- Naevus verrucosus. Boy of 9. Unilateral.
- Carcinoma of breasts and scalp. Woman of 38. Operation  $4\frac{1}{2}$  years before; 18 months after, a half dozen coin-sized, saucer-shaped lesions appeared on the scalp.

## FRIDAY MORNING.

- Alopecia universalis. Girl of 8. Idiot.
- Alopecia areata, leucotrichia and vitiligo. Woman of 25;  $2\frac{1}{2}$  years' duration.
- Pseudo-pelade. Woman of 30. Duration, 3 years; showed redness and some follicular hyperkeratosis, *e.g.*, looked like lupus erythematosus.
- Hyperkeratosis. Woman of 45. Sole.
- Epidermolysis bullosa. Man of 40; 36 years' duration. Severe, extensive case. Case for diagnosis. Man. Possibly Kaposi's sarcoma.
- Granuloma. Man with nondescript, infiltrated lesions of leg.
- Lupus erythematosus. Woman of 52. Face, back and scalp.
- Morphœa. Woman of 60. Linear lesion on nose and forehead.
- Case for diagnosis. Generalized eruption on face and back.
- Kaposi's sarcoma (?). Man of 50.
- Congenital alopecia with dystrophy of nails. Boy of 5.

## FRIDAY AFTERNOON.

- An angiokeratomatosis family. Father and three sons. Lesions on hands. All suffering from pulmonary tuberculosis. Mother and one daughter apparently well.
- Congenital hyperkeratomatosis. Baby, 7 months old. Palms and soles.
- Atrophic dermatitis. Young woman. No definite diagnosis.
- Sporotrichosis. Woman of 63. Lesions on arms and legs. Ulcerating and crusted lesions and scars. Duration, 2 years. Cultures demonstrated.
- Sarcoid of Darier. Woman. No lesions visible.
- Sarcoid of Darier with Livedo. No lesions visible.
- Morphœa. Girl of 16. Neck. Duration, 5 years.
- Extensive hairy mole. Girl of 3. Bathing trunk type.
- Syringomyelia. Woman. No lesions present. Arm amputated.
- Pityriasis rubra pilaris. Woman. Lesions cleared up.
- Three cases of epidermoïsis bullosa. Children. History traced through five generations.
- Two cases of leprosy. Men. Mixed type.

- Infective angioma. Woman of 22. Punctate, grouped lesions of right arm and chest since 2 years of age. Gradually spreading. No ringed lesions.
- Telangiectases. Woman of 55. Tongue and hands. Duration, 1 year.
- Six cases of lupus cures. Finsen therapy, beautiful results (Dr. Sequeira).
- Double primary chancre of lip. Girl of 16.
- Case for diagnosis (Blastomycosis?). Woman of 65. Right arm. Duration, 1 year.
- Syphilitic elephantiasis. Woman of 50. Duration, 8 years.
- Acute lichen planus. Woman.
- Persistent erythematous eruption. Woman of 37. Case published by McCormac (*Brit. Jour. Dermat.*).
- Xanthoma tuberosum multiplex and osteo-arthritis. Man of 50. Duration, 20 years. Extraordinary eruption of neck, arms, chest, eyes, chin and lips.
- Granuloma annulare. Two cases in young men. Lesions in groups on backs of hands. Flesh-colored, hard, elevated nodules, some of them annular in form.
- Dermatitis herpetiformis. Man (middle age).

## MONDAY AFTERNOON.

- Congenital syphilis. Infantilism. Girl of 16. Nose lost.
- Tertiary syphilis. Woman of 37. (Plastic operation of nose.)
- Syphilis. (Pigmentation of face following.)
- Two cases of dermatitis herpetiformis. Boy of 3 and man of 21 years.
- Tinea corporis et unguium. Trichophytic granulomata. Brother and sister. Woman of 24, nails, eruption on trunk and kerion of scalp. Man of 22, nails. Extensive scars upon abdomen, beginning when 13 years old. Published by Sequeira.
- Four cases of urticaria pigmentosa. Boy of 9. Lesions appeared 2 weeks after birth (free for past year). Girl of 11. Profuse eruption of elevated xanthoma-like lesions. Began when ten months old. Boy of 19. Sparse eruption since 6 months of age. Boy of 13. No lesions to be seen.
- Case for diagnosis. Woman of 50. Multiple, pinhead-sized, rounded, solid, whitish, non-inflammatory papules of face and neck. Histological specimen unsatisfactory. Various diagnoses; fibroma, adenoma, endothelioma, epithelioma, etc.
- Case of unusual pigmentation. Man (about 20). Pigmentation of both legs in patches, gradually extending upward.

## TUESDAY MORNING.

- Nævus linearis. Boy of 7. Double-sided, verrucous lesions from birth.
- Nævus linearis. Baby of 22 months.
- Diffuse scleroderma. Man of 56. Began 2 years ago. At first involved entire body down to knees. Gradual improvement under vigorous massage and thyroid internally.
- Diffuse scleroderma. Man of 49. Same duration and situation as above. Severe case.
- Radiodermatitis with late hæmorrhage and ulceration of long period. Boy of 14. Six years before, had X-ray applied to tuberculous glands of neck. Then no treatment for 2 years, after which troublesome hæmorrhage, superficial ulceration and telangiectases.
- Pituitary tumor. Dystrophic adiposogenitalis. Bi-nasal hæmianopsia. Boy of 16. Simple minded. Excess of fat on abdomen and around nipples. Non-development of testes, penis and pubic hairs.
- Lichen planus. Boy of 15; 9 weeks' duration. Generalized.
- Multiple angiomata. Woman.

There were five general themes for discussion, in which the Section on Dermatology participated. The discussion of the first theme "Epithelioma of the Skin, Benign and Malignant," was opened with a paper by Dr. Darier. He took up the subject of naevo-carcinoma, including malignant growths from naevi and soft warts. The method of treatment depended upon the form of the cancer. Those of the rodent ulcer type were amenable to treatment with X-ray, cauterization etc., while the carcinomata were only to be attacked by surgical measures.

Dr. Fordyce followed with a demonstration of beautiful microphotographs illustrating various types of cutaneous cancer and described the various conditions which may precede cancer, such as certain verrucae, xeroderma pigmentosum, leukoplakia and X-ray burns. He also showed some of the results of the massive-dose X-ray method of treatment carried out in his clinic by Dr. MacKee.

The third reporter upon this theme was Prof. Jadassohn, who divided benign epithelial growths into four classes according to their aetiology. The infective type, such as molluscum contagiosum, chemical type, as from the action of tar, mechanical type, such as corns, and actinic type, such as those from X-ray.

The second general theme was "Alopecia Areata and Allied Conditions," which was taken up on Friday morning, the first reporter on the subject being Dr. Sabouraud. He considered that alopecia areata was a non-contagious disease. It was a general affection with local manifestations. The association with nail changes and also vitiligo, psoriasis etc., pointed to some general cause. He did not think Jaquet's theory of reflex origin applied except to one-sided alopecia of small or moderate size. Alopecia areata was a familial affair, a fourth of the cases showing hereditary tendencies. There was a frequent connection with thyroid troubles in both sexes and ovarian troubles in females.

Prof. Pelizzari, who followed, thought that alopecia areata should be considered as a symptom rather than as a disease. It was of nervous origin and of various causations.

In the discussion, Prof. Nohl concluded that heredity was an important and syphilis a very unimportant aetiological factor in this disease.

Dr. Sequeira had examined the teeth of 50 cases of alopecia areata and 50 control cases and found an equal amount of dental caries in both, thus opposing the reflex theory of Jaquet. In another series of 50 cases he had obtained three positive Wassermann reactions.

On Saturday morning there was a general discussion of "Syphilis: Its Dangers to the Community and the Question of State Control." As might have been expected, this question attracted a good deal of attention in the lay press. The discussion of this most important subject was held at Albert Hall in a joint meeting of the Section on Dermatology and Syphilography and the Section on Forensic Medicine. At the conclusion of the meeting, the following resolutions were put by the chairman, Sir Malcolm Morris:



That, sensible of the ravages wrought by syphilis in the health of the community and deploring the inadequacy of existing facilities for checking its dissemination, the International Medical Congress calls upon the Governments of all the countries here represented:

1. To institute a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain.
2. To make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for.

This first resolution was carried by a majority, the second unanimously. The first speaker to open the subject was Prof. Blaschko, who said it must first of all be recognized that prostitutes can not be rendered entirely free from venereal disease. It was our duty to try to reach the most dangerous class of cases, namely young clandestine prostitutes. He considered that the regulation of prostitution had not succeeded in lessening the amount of syphilis. The main point in the fight against venereal disease was to provide an easy opportunity for every form of treatment, especially in hospitals, without cost to the poor and by means of insurance for the working classes. All would not, of course, take advantage of such opportunities and particularly those who needed it most. As a result of this, attempts at compulsory treatment had been made but without much success. He thought that any means that were adopted should include both sexes, that there should be no official listing of prostitutes and, finally, that the question should be dealt with by a health board instead of the police. Compulsory measures should only be used in the case of very young weak-minded, or degenerate persons.

Prof. Finger read the next paper and concluded with the following suggestions:

1. Instruction of healthy persons, especially the young, concerning the meaning of sexual life and venereal disease, as well as individual prophylaxis.
2. Removal of all obstacles from moral or other standpoints which interfere with individual prophylaxis.
3. Instruction of diseased persons by official pamphlets given them by physicians.
4. Instruction of the wet nurse concerning venereal disease.
5. Regulation of bureau of wet nurses. Laws for the protection of wet nurses and nursing infants; examination of wet nurse and child by Wassermann test; erection of lying-in hospitals; encouragement of mothers to nurse.
6. Reform in sanitary conditions of roomers.
7. Improvement in treatment. Special wards in hospitals. Pay beds for the middle classes. Ambulatory treatment at suitable hours. Free dispensing of drugs. Cost of treatment to be borne by the state.
8. Passage of a law making the wilful or careless communication of venereal disease a criminal act.
9. Introduction of restricted compulsory treatment.
10. Forbidding treatment by venereal quacks; forbidding the advertising of treatment by mail and the sale of medicine for self treatment.

Owing to the illness of Major H. C. French, his paper was read by Dr. Brend. He said that the system used in the army to control syphilis could be adopted or even improved upon for use in civil life. It was, however, first necessary to obtain legal control of the disease as small-pox and other much less dangerous diseases were controlled. It was absolutely necessary, he said, to "go to the Legislature of the country with concrete proposals and undivided counsels." There were three main principles involved in the prevention and control of venereal diseases. First: control at the source, which is concerned with prostitution before the disease is contracted. This includes medical notification, suppression of *souteneurs* and street solicitors, protection of orphans and destitute children and police measures. Second: prevention by medical measures after contraction of disease, including hospital beds and segregation, professorships at large hospitals, instruction of students and the public and treatment. Third: moral and religious considerations, more especially applicable to young persons before the disease is contracted.

Profs. Gaucher and Gougerot followed and at the conclusion of their report urged the adoption of the following measures:

1. Individual education of young men and young girls, explaining the dangers of venereal disease, promiscuous kissing, etc.
2. Education of the heads of families in that mothers should instruct the young girl and that parents should demand a medical certificate from the candidate for marriage. Reform of medical secrets, allowing the head of the family to be informed when one of his children, who is under age, suffers from a contagious disease.
3. Education of married people, so that the husband, who is a victim of a venereal disease, shall cease marital relations at the first appearance of a suspicious lesion; that the wife will receive preventive treatment during pregnancy, and the child be periodically examined and not given to a wet nurse.
4. Stricter observation and especially protection of the wet nurse, by compelling a medical examination of the parents of the infant as well as the infant itself. By periodical examination of the latter as well as of the wet nurse.
5. Medical examination of children's nurses, especially with regard to venereal diseases.
6. Police regulation for sterilization of napkins, knives and forks in restaurants and hygienic measures in barber shops.
7. Regulation of dangerous industries, such as glass-blowing.
8. Careful sterilization of medical instruments, the use of wooden tongue depressors, etc.
9. Hospital reform, including admission upon demand of venereal patients, subdivision of medical wards, allowing small portions to be set aside for venereal patients, without having the name of the hospital or special ward serve as a reproach to its patients. Abandonment of special hospitals and even special venereal services except for purposes of teaching. Sunday and evening clinics, allowing patients to be treated without interrupting work, and free medicine to poor patients.
10. Obligatory aid to be given by benefit societies to members who are subjects of venereal disease.
11. Obligatory instruction and a special examination in venereal diseases to students of medicine.

12. Suppression of medical quacks.
13. Treatment of syphilitic prostitutes. Suppression of trapping, procuring, houses of prostitution and white-slave traffic. Penal offense for transmitting syphilis.
14. Protection and reëducation of prostitutes who are under age.
15. Continuing the present work of aiding older prostitutes.
16. Prevention and suppression of prostitution, discovering the child's father by giving the outraged girl the rights of a legitimate wife and by imprisonment or fine for a man deserting his mistress.
17. Protection of the young girl by education, by providing places of refuge for girls out of work. Protection of young girls seeking employment and away from home.
18. Moral education. Respect for young girls. Severe punishment for adultery. Marriage at an earlier age, which would render prostitution useless.

Dr. Leredde, in opening the discussion, called attention to the fact that syphilis was second as the cause of death in Paris, when visceral and nervous complications are included.

Prof. Pontoppidan said that at present in Denmark there was no compulsory notification of cases of syphilis as had formerly been the case. He did not think there would be any change in statistics under the new regime. He was opposed to police regulation of venereal disease and was in favor of liberal treatment for the poor who were suffering from venereal diseases, though this had proved very expensive in Copenhagen.

Dr. Carle said that as a result of giving up compulsory methods, the voluntary notification of syphilis had recently doubled in Lyons.

Dr. Douglas White considered that all compulsion was useless on account of clandestine prostitution. He considered the hospital accommodations for syphilis entirely inadequate. He believed that there were about a half million fresh infections of venereal diseases every year in England, a fourth of which number were syphilitic.

Mr. Ernest Lane, of the London Lock Hospital, considered syphilis to be milder now than formerly, due to improved hygiene. He was opposed to compulsory measures, and urged proper education of schoolboys, who were often infected due to ignorance.

Dr. Helen Wilson was opposed to compulsory notification, especially until treatment was more efficient.

Dr. Dubois-Havenith, the Secretary of two congresses on this subject at Brussels, urged that the matter be fully discussed in the lay press, which was generally afraid to use such terms as syphilis and prostitution. He did not consider notification necessary.

Dr. Woods Hutchinson was in favor of notification, while Dr. Dennis Vinrace opposed this idea, considering it a breach of trust. He thought that medical men should not become policemen.

Sir Malcolm Morris, in closing the discussion, said that the question was an international one. He had recently taken part in an effort to induce the British Government to thoroughly investigate venereal diseases. The facts in regard to these diseases were not known to the general public and were most imperfectly appreciated even by the legislators. An end must be put to the silence in which the subject had too long been enshrouded. The resolutions submitted, he added, constituted the irreducible minimum of what they had a right to call on all the civilized governments of the world to do.

On Monday morning one of the most enthusiastic and important meetings of the Congress took place. It was a joint discussion of "The Treatment of Syphilis with Salvarsan and Allied Substances," by the

Section of Dermatology and Syphilography and that of Naval and Military Hygiene. Sir Malcolm Morris and Sir Launcelet Gubbins, the Director General of the Army Medical Service, presided. Professor Ehrlich was called upon to introduce the subject and was greeted by prolonged applause. He said that he did not intend to discuss salvarsan from the clinical standpoint. He agreed that the action of the drug upon spirochætae was an indirect one in the body, as the organisms were not killed by salvarsan in vitro. He did not consider the drug to be neurotropic as a result of his experiments. The febrile reaction following its administration was due he thought, to faulty technique, and to the setting free of toxins by dissolution of spirochætae. The latter eventually could, he said, be prevented by the preliminary use of mercury. With regard to the mortality, he said that it was less than that due to chloroform and thought it could be further reduced by more careful consideration of the contraindications, such as renal insufficiency, Addison's disease and status lymphaticus.

Prof. Neisser, though absent, had sent a report of his valuable paper in which he said that he considered that the combined salvarsan and mercury treatment was not only more effective but also less dangerous than the use of either remedy alone. For all fresh cases the sovereign remedy was salvarsan. The action of the drug in his opinion was not of itself neurotropic. He remained a strong adherent of salvarsan, the discovery of which he considered to be an immense step forward in the treatment of syphilis. He also considered it essential to treat every case individually.

Maj. Vennin, of the French Army, was also absent, though his paper was published. He considered that the introduction of arsenobenzol in the army hospitals, particularly in the form of neosalvarsan was desirable on account of its rapid and intense action upon syphilis. It could not be used as a routine on account of the accidents that follow its use and the extreme care that was necessary in its administration. It should be reserved for hospital treatment of early cases where a cure could be obtained, malignant cases and those rebellious to mercury and where patients were a menace to the community. With the exception of such cases the military men should use only mercury in the treatment of syphilis, outside of a hospital service.

The following paper was then read by Lt. Col. T. W. Gibbard and Maj. L. W. Harrison, of the Royal Army Medical Corps, who illustrated their work with valuable statistics. The writers obtained the best results with a course of two intravenous injections of 0.6 gm. of salvarsan and nine intramuscular injections of mercury prolonged over nine or ten weeks. Under salvarsan treatment, primary cases suffered so much less from relapses than secondary cases, that it was worth every effort to see that as many patients as possible were treated in the early primary stage. Even if no improvement were made in the method of using salvarsan, which had given the best results in their hands, its routine use for the benefit of syphilis in the Army was likely to effect an annual saving of 70,000 to

80,000 hospital days, an economy equivalent to the cost of keeping a battalion of infantry in hospitals for three months. Salvarsan, in their opinion, was a sufficiently safe remedy to justify its routine use for the treatment of syphilis in the army, but it must be entrusted only to those who are thoroughly acquainted with its indications and contraindications and the technique of its administration.

Prof. Wassermann opened the discussion and said that in fresh infections it was comparatively easy to change a positive to a negative Wassermann by means of salvarsan. After several years, however, the same thing could only be done with great difficulty. He thought it necessary to examine the cerebro-spinal fluid at least once during the first year of the disease. After the appearance of clinical symptoms of cerebro-spinal irritation, the disease, he thought, was incurable. A positive reaction in the cerebro-spinal fluid was an indication for energetic treatment with salvarsan until both the spinal fluid and the blood serum gave negative reactions.

Dr. Hallopeau, in continuing the discussion, said that with salvarsan and hecine it was possible, he thought, to cure syphilis. A communication was then read by Sir Malcolm Morris and Dr. McCormac upon results of treating a series of 500 cases. There had been no deaths, but there were several severe reactions after the second injection, which they ascribed to the presence of an anaphylactic state.

Dr. Leredde thought that failures were due to a too short or insufficient treatment, while Dr. McDonagh characterized the spasmodic administration of salvarsan as worse than useless.

Dr. Saalfeld favored the use of a smaller amount of water for intravenous injections, using 40 cc. of sterile water for each 0.3 gm. of salvarsan. Dr. Basch condemned the ambulatory administration of the drug.

Dr. Lévy-Bing reported upon a series of 12 cases of fresh infections, treated from the third to fifteenth day after the appearance of the chancre. Of these, 7 had relapsed both clinically and serologically within a year. Prof. Hata, of Japan, whose name will always be associated with that of Ehrlich in his discovery of salvarsan, gave some encouraging statistics from cases treated in his country. Prof. Blaschko was very conservative and thought we should wait another ten years before giving our conclusions. He, too, was opposed to ambulatory treatment and considered alcoholic subjects as dangerous risks.

Prof. Fordyce had given between six and seven thousand injections without a single death. He had been successful in the treatment of pregnant women and felt that cases of tabes had been improved by giving intensive treatment.

Dr. Schreiber did not think that salvarsan was neurotropic. Neosalvarsan, though weaker than salvarsan, was three times less toxic. He reported good results in the treatment of the prostitute class at Magdeburg, the women realizing the benefits of treatment and voluntarily applying for it at the clinics. Dr. McIntosh said he had proved that salvarsan was innocuous to healthy individuals, as such persons failed to show any symptoms after injections. Dr. Ullmann declared that there was no anti-salvarsan party, and Jadassohn admitted that he had a considerable number of neuro-recurrences which he ascribed to insufficient administration of salvarsan.

On Tuesday morning, the last day of the Congress, the interesting and practical theme of "The Vaccine Treatment of Skin Diseases" was taken up, Prof. Gilchrist reading the opening paper. He compared the status of vaccine therapy to that of the X-ray during the first few years of its use. He spoke of the wholesale and indiscriminate use of vaccines, especially

in America, which were put upon the market by drug firms. He urged the use of autogenous vaccines where stock vaccine had failed to give results. He spoke of experiments with ointments made up of dead micro-organisms and a suitable base in treating skin diseases; of vaccines made from the colon bacillus, in a number of skin diseases, especially urticaria, with varying results. He had obtained the best results in chronic and subacute cases of staphylococcic infection, pustular types of rosacea, acne vulgaris, furunculosis and blastomycosis.

The second reporter upon this subject was Prof. Whitfield, who summed up his experience as follows: In certain acute infections of the skin, as erysipelas, appropriate vaccine treatment was the only direct curative measure. In furunculosis, vaccines would alter the course of the disease and prevent the occurrence of new lesions. Certain diseases, such as sycosis, tending to become chronic from the outset, might be cured at first by vaccine therapy, but were exceedingly refractory if of long standing. In tuberculosis of the skin, the method was of some value in clearing up indolent lesions, such as those of Bazin's disease.

In addition to the five themes that were subjects of the general discussion, numerous independent papers of interest were read. In fact, they were so numerous that some of them had to be read simultaneously in two different halls. To attempt to abstract them all would take up more space than is allowed for this report.

Unstinted praise should be given for the splendid Dermatological Museum at St. Thomas's Hospital, which had been arranged after an immense amount of work by Dr. Sequeira. This, it may be said, was entirely independent of the general Congress Museum. It contained numerous collections of photographs and moulages amounting in all to about 1,500 individual objects. The collection contained pictures of historic interest, including the original drawing of notched teeth by Jonathan Hutchinson, water colors of Dr. Pringle's case of adenoma sebaceum and of the original English cases of actinomycosis and of acanthosis nigricans.

One of the features of the Congress was the opportunity given to visiting members to attend the various clinics and hospitals of London. As a result of several such visits I must say that I was greatly impressed with the results obtained at the London Hospital (service of Dr. Sequeira) in treating ringworm by the X-ray. I was told by one of the attending physicians that 700 children had been treated since January of this year, the entire scalp being depilated at one sitting. There had been no failures and no cases of permanent baldness. The Finsen Department of the same hospital and the Radium Institute under the direction of Dr. Haywood Pinch, were of the greatest interest to me and some of my American colleagues.

While an immense amount of time and work had been given by our English colleagues to make the Congress a scientific success, the social side had apparently received a full amount of their attention. The entertainments included immense receptions, where some of the members wore

their academic gowns and decorations. They also included numerous smaller receptions, garden parties, dinners and a large number of excursions in and around the city of London. As visitors, we all felt indebted to Sir Malcolm Morris and his associates, Drs. Pringle, Galloway, MacLeod, Sequeira and Graham-Little, for their efforts in making the Section of Dermatology and Syphilography an unquestioned success.

Finally, it was a satisfaction to see American Dermatology represented so ably by Drs. Fordyce and Gilchrist and to have such a large attendance of our countrymen. It was also a great pleasure to hear words of praise from foreigners regarding the splendid position that was held among scientific dermatologists by the Journal of Cutaneous Diseases.

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## DERMATOLOGICAL THERAPEUTICS.

By

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### ICHTHYOL.

(Continued from page 664.)

ECZEMA.—There appears to be little doubt of the fact that ichthyol alone has not proved generally satisfactory in the treatment of eczema. In a perusal of the literature relating to this drug, I have noticed the enthusiasm with which ichthyol is recommended for many conditions and the rather striking absence of eczema among them. I have not been able to discover a single article relating exclusively to the treatment of eczema with ichthyol, although in several instances the subject receives a brief mention. This should not, however, be interpreted to mean that ichthyol alone does harm in eczema, but rather that many other drugs surpass it in their curative action in this disease. In *certain types* of this multiform affection, ichthyol undoubtedly is most useful. Thus, either alone or with a small proportion of resorcin, ichthyol acts splendidly as a desiccant in eczema intertrigo, causing the inflamed, weeping surfaces to become harder, whiter and dry. For this purpose Unna (*Ichthyol und Resorcin*, p. 51) recommends in early cases a 10% ointment, while for old cases with a great deal of infiltration, a mixture of equal parts of ichthyol and tincture of green soap; from 2 to 10% salicylic acid can be added. In another paper (Aphorismen über Schwefeltherapie. *Monatsh. f. prakt. Dermat.*, 1882, i, p. 329) he advises the application of 50% ichthyol ointments to papular eczemas and ointments of 20 to 30% to the vesicular

form. The strengths of each should then be slowly diminished as the affection progresses.

Chatelain (*Jour. d. mal. cutan. et syph.*, 1893, v. p. 169) admits that the results of using ichthyol in the treatment of eczema have been both good and bad. He found ichthyol entirely too irritating in acute eczema. In chronic eczema he obtained satisfactory results with a mixture of equal parts of ichthyol, zinc oxide and vaseline.

During the last three years, I have treated at the Vanderbilt Clinic ordinary papular eczema as well as chronic eczema of the hands and feet with:

R	Ichthyoli,	
	Acid. salicyl.,	
	Ol. cadini	.....āā 5.0
	Adip. lanæ hydros.,	
	Vasellini flav.	.....āā ad. 100.0 M.

There is, of course, no one formula which is suitable for the treatment of even one type of this remarkable disease, but the above prescription will be found to act well in a comparatively large number of cases, particularly if the constituents be varied to meet any striking individual requirement.

ULCER CRURIS. As might be expected from a remedy with vaso-constrictor action, ichthyol has been much used to overcome those conditions in the lower legs which are usually directly or indirectly, the result of hypostatic pressure or venous obstruction or both. Thus, for the eczema madidans cruris which is so frequently associated with chronic passive congestion and varices, Dreuw (*Monatsh. f. prakt. Dermat.*, 1911, No. 3, p. 62) used what he calls a porous cement paste which hardens on the skin. It consists of

R	Ichthyoli	.....	5.0-10.0
	Sulphur. præcip.	.....	10.0
	Past. Lassarii	.....ad.	100.0 M.

This has an absorbent, dessicating and antiseptic action and produces rapid healing together with immediate reduction of the pain, infiltration and secretion.

For ulcer cruris, Hartmann (*Ichthyolbehandl. d. Unterschenkelgesch., Correspondenzbl. f. Schweiz. Aerzte*, 1891, No. 15) first thoroughly cleansed the wound and then applied pure ichthyol, dressing and bandaging. This must be repeated daily for a week, during which the patient may complain of some burning pains and then once in from eight to fourteen days. This gave him very good results.

Unna (*Stauungsdermatosen des Unterschenkels, Deutsche Medizinzeitung*, 1884, No. 39) prescribed from 0.6 to 1.0 of ichthyol in pill form internally *per diem* and daily inunctions with a 10% ichthyol vaseline. He found this to give better results than any other treatment of leg ulcers known to him.

WOUNDS. Besdjetnoff (*Aerztl. Praxis*, 1902, No. 3) treats wounds



into which dirt has entered and sluggish ulcers by first painting them with tincture of iodine and the surrounding surfaces with pure ichthyol. He believes this method enables one to avoid erysipelas and sepsis and, in addition, produces a rapid healing of the wound.

**ECTHYMA. LYMPHANGITIS.** Lutembacher (*Rev. intern. de méd. et de chirurg.*, Janvier, 1910,) applied wet dressings with 5% and, later, 10% watery solutions of ichthyol to the affected areas. The dressings were covered with cotton and oiled silk and renewed daily. The lesions disappeared rapidly.

Ackermann (*Correspondenzbl. des aerzt. Vereins zu Thüringen*, 1885, No. 8) cured several cases of cellulitis of the hands by daily applications of a 25% ichthyol ointment. The skin of the affected area soon became shrunken into dried, hard folds.

**MERCURIAL NODES.** Nodes resulting from injections of the insoluble mercurial salts, are often very painful during the first 48 hours, especially when calomel has been used. During my service at Professor Neisser's Clinic in Breslau, Prof. Klingmüller, then first assistant, found that painting one or more layers of pure ichthyol over the site of the injection and surrounding skin resulted in a marked diminution or, in some cases, practical elimination of the pain and reduced any tendency to infiltration.

**ANAL FISSURES.** These lesions were treated with ichthyol by Van der Willigen (*Jour. de méd.*, 1894, No. 32). Chéron (*Gaz. de Gynecol.*, Fevr., 1897, 1) and Conitzer (*Muench. med. Wchnschr.*, 1899, No. 3). Van der Willigen paints ichthyol into the anus and allows the contraction of the sphincter to squeeze it into all the folds. He gives castor oil and a diet to ensure soft stools as adjuvants and claims that cures result in from 2 to 3 weeks. Conitzer anæsthesitizes the tear with cocaine and then applies pure ichthyol with a glass rod or cotton stick. The ichthyol application is repeated daily, while the bowels are kept well open and the stools soft. Chéron proceeds as above, but dilates the anal sphincter under cocaine anæsthesia on the fifth day, when a thorough examination is made and, after inspection, a thorough application of pure ichthyol is made. Both writers claim to cure fresh fissures after 12 to 15 daily treatments and old lesions in about 20 days.

**VARIOLA.** Kolbossenko (*Monatsh. f. prakt. Dermat.*, 1898, xxvi, p. 469) treated 10 cases by painting the affected areas with

R	Ichthyoli .....	10.0
	Ol. amygdal. dulc. ....	60.0
	Lanolini .....	20.0 M.

and, when necessary, the entire body. Pain and itching were absent and pustulation was almost entirely eliminated. The temperatures did not exceed 39.5° C. When the entire body surface was painted, no toxic symptoms were produced.

**MORBILLI.** Kolbassenko's scholar, Strisower (*Dermat. Centralbl.*,

1898, ii, p. 15) not only confirmed the favorable effects of ichthyol in variola but found the same treatment very effective in measles.

SCARLATINA. Siebert (*New Yorker Monatschr.*, 1900, No. 99.) found watery sprays and gargles containing ichthyol effective in combatting the streptococcus invasion of the throat. He also used an ointment externally.

ADENITIS. Merek (*Ichthyol*, p. 132) recommends:

℞ Ichthyol,  
Lead iodid,  
Lanum,  
Benzoinated lard .....āā

to be rubbed over swollen glands three times a day.

PUSTULA MALIGNA. Jaffé (*Aerztl. Praxis*, 1901, No. 14 and *Klin.-therap. Wchnschr.*, viii, No. 19, p. 638) burned out the ulcerated tissue with the thermo-cautery and applied wet dressings of sublimate (1-1000). For the latter, he substituted later a 33% solution of ichthyol in glycerine which was applied twice daily. With the last remedy he cured 14 cases, some of which appeared hopeless. The scars which resulted were satisfactory.

MYCOSIS FUNGOIDES. Menahem Hodara (*Monatsh. f. prakt. Dermat.*, 1904, xxx, p. 490) used ichthyol internally in doses of from 0.5 to 1.5 daily, while one case was also painted with ichthyol collodion. The first patient was much improved in his general condition and the erythroderma and tumors diminished. In the second case, which also received local treatment, the itching ceased and the affected surfaces became normal.

ABSORPTION OF ICHTHYOL BY THE SKIN. When taken by mouth, ichthyol is capable of affecting the skin through its excretion by that organ as sulphur compounds. Conversely, when applied to the healthy or morbid skin, ichthyol is absorbed into the system and eliminated as when internally administered. Beck and Fenevessy (*Ueber die Resorption des Ichthyols durch die Haut, Arch. internat. de pharmacodynamie*, 1899, vi, Nos. 1 and 2, pp. 109-120) conducted experiments on dogs in order to study this subject. The results of their findings are summarized as follows:

1. Ichthyol is absorbed by the normal skin of the dog. This is shown by an increase in the oxidized and unoxidized sulphur content in the urine.

2. These investigators could not decide whether the absorption from the external applications affect the patient as does the internal administration.

3. Their experiments showed that the skin may be penetrated by substances easily soluble in water and oils and that such substances may not only act locally but may also influence distant parts.

INDICATIONS. Ichthyol has been recommended for a very large number of cutaneous diseases. In many of these it may do no harm and is perhaps useful in the secondary rôle of an adjuvant to another more appro-

priate and efficient remedy. There are however certain conditions in which ichthyol, either alone or as the principle element of a prescription, is certainly indicated. These are

Erysipelas.  
Frostbites.  
Rosacea.  
Ulcus cruris.  
Burns.  
Intertrigo.

Ichthyol has also been recommended for the treatment of:

Lupus erythematosus.  
Herpes zoster.  
Sycosis barbæ.  
Pruritus senilis. Prurigo.  
Furuncles. Carbuncles. Kerion.  
Variola.  
Acne vulgaris.  
Ichthyosis.

Indications for the internal use of the drug have already been mentioned.

**CONTRAINDICATIONS.** These are strikingly few because the drug is almost devoid of toxic properties and is, *when properly used*, almost non-irritating. Perhaps the use of this drug might be said to be contraindicated in conditions where its action is therapeutically inefficient and where another remedy might accomplish better results. It is hardly necessary to state that the pure ichthyol or even 20 to 50% solutions or ointments should be used with great care in acute inflammations and it would be equally superfluous to remind the reader of the obvious fact that the drug cannot be used on the face during the day when the patient is obliged to appear in public.

Unna (*Wie behandelt die neuere Dermatologie Erysipel? Monatsh. f. prakt. Dermat.*, 1889, viii, p. 241) states that ichthyol in strong percentages may cause œdema and vesiculation if used on certain parts of the body which have a natural tendency to œdema, as the penis for instance. Hence, for erysipelas of the genital region, the reductants should be avoided and lead water with 5% carbolic acid employed. Ichthyol collodion may, however, be applied to small patches.

H. G. Klotz (*Strong Solutions of Ichthyol in Acute and Chronic Inflammatory Conditions of the Skin, Jour. Cutan. Dis.*, 1897, xv, p. 462) states that the presence of pus is not a contraindication to the use of ichthyol as it has a quieting effect in pustulation.

**IDIOSYNCRASY.** An idiosyncrasy to the external use of the remedy is apparently very rare indeed. Its internal administration, however, has proved very disagreeable to a majority of my own patients. In fact, belching, nausea and even vomiting have occurred so often that I now give ichthyol by mouth only in the form of a two-grain pill with the so-called enteric coating. The use of these pills is not attended with any un-

pleasant gastric symptoms. They certainly act well in excessive intestinal fermentation and also—incidentally—greatly benefit bronchitis.

**DOSAGE.** The dosage for ichthyol administered internally is usually accepted as from 1.0 to 3.0 per day, but the latter does not in any sense represent a maximum dose, owing to the almost non-toxic character of the drug.

**DOSAGE OF EXTERNAL APPLICATIONS.** One to 3% watery solutions cause moist, vesicular surfaces to dry up but have little or no vaso-constricting effect. They act as anodynes, antipruritics, keratoplastics and antiphlogistics to acute inflammatory conditions. It should be noted, however, that for dermatitis venenata Klotz (loc. cit.) found a 50% watery solution to be more effective than the weaker strengths. Jessner (loc. cit.) recommends ichthyol ointments of  $\frac{1}{2}$  to 2% as excellent for acute and subacute eczema and warns against stronger proportions for this disease. He states that the weaker percentages of ichthyol have no antipruritic effect and to obtain this we must use at least 15 to 50%. Such percentages are also capable of causing the absorption of old, hard areas of infiltration.

Klotz refers to the usual practice among writers of advising the use of very weak ichthyol solutions and very mild ointments only, as though ichthyol, like pyrogallol, were a strong irritant and with toxic properties. He has never met with a case of idiosyncrasy to ichthyol and believes a single application of a strong solution to be less irritating than repeated applications of mild ones, while the therapeutic effects are more rapidly developed. I heartily agree with Klotz as regards the choice of strong proportions of ichthyol or, still better, the pure drug in each and every case where such can be tolerated. It should be remembered that, contrary to prevalent ideas, even pure ichthyol is not necessarily an irritant and does not act as such even in many acute, inflammatory processes. I believe that a large proportion of the disappointing results from treatment with ichthyol have been due to the use of a proportion of the drug entirely too feeble to develop the effects desired.

#### MODES OF APPLICATION.

Ichthyol may be used pure as a paint over affected areas. Several coats are applied after the part has been washed with liquid soap and water. Most writers recommend covering the layer of ichthyol with cotton or cigarette paper. I prefer to avoid the use of these more or less absorbent materials if the surface is not subject to pressure, friction or trauma and allow the ichthyol to harden. This occurs in about one hour after the last application and gives a tough, elastic and almost dry coating which is a good protective. It is, however, kept moist by perspiration when the latter is at all profuse. The effect of the ichthyol is intensified if covered by oiled silk.

**ICHTHYOL PLASTERS.** A similar effect is produced by *ichthyol gutta*

*percha plaster*, while the *ichthyol plaster muslin* of Unna is milder in action and, like the former, is clean and very convenient to use. Taenzer (*Zur Anwendung der Unna'schen Guttapercha Plastermulle. Monatsh. f. prakt. Dermat.*, 1894, xviii, No. 7, p. 317) describes in detail the use of both.

**ICHTHYOL COLLODION.** This is used in strengths of 5 to 30%. Its therapeutic effect is rather weak and it should not be used on the hairy skin.

**ICHTHYOL VARNISHES.** These are recommended by Unna (*Ueber Ichthyolfirnisse, Monatsh. f. prakt. Dermat.*, xii, p. 49) as a substitute for ichthyol collodion. These varnishes are soluble in water and hence their removal, even from hairy parts, is easy and painless, while their action is good on even deep-seated processes. The varnishes dry easily, do not soften from perspiration and make a clean dressing. Unna uses two formulæ:

R Ichthyol .....  
 Starch ..... 40.0  
 Conc. albumin sol. .... 1.5  
 Water to make ..... 100.0  
 Mix starch with water thoroughly;  
 then add ichthyol and finally, albumin.  
 For general use.

R Ichthyol ..... 25.0  
 Carbolic acid ..... 2.5  
 Starch ..... 50.0  
 Water ..... 22.5  
 Dissolve ichthyol and phenol in water,  
 then rub in the starch.  
 For mild antiseptic action.

These varnishes require about ten minutes to dry. Sulphur, resorein and chrysarobin may be added if desired.

**ICHTHYOL OINTMENTS** are made with a base of lanoline, vaseline or lard, in proportions of 5 to 50%.

**ICHTHYOL PASTES** are used in strengths of 10 to 30% with calcined magnesia, zinc oxide, impalpable silica sand, prepared chalk or starch and glycerine or lanoline. They are very useful where a protective, resolvent and hygroscopic action is sought.

**ICHTHYOL OILS AND GLYCERINES** are used principally for the scalp, in proportions of 5 to 10%, or as mild, light applications to large areas or—as in ichthyosis—the entire body.

**ALCOHOL-ETHER SOLUTIONS OF ICHTHYOL** dry very quickly and, by rendering both sebum and ichthyol thin, enable the latter to penetrate into the pilo-sebaceous orifices.

**WATERY SOLUTIONS OF ICHTHYOL** are very cheap and therefore suitable for out-patient use. They are much used for moist dressings in strengths of 1 to 3%, to which 5 to 10% of glycerine is sometimes added.

**ICHTHYOL BATHS** may each contain from 250.0 to 300.0, according to Charles DuBois (*Rev. de méd.*, 1905, No. 6, p. 54) and be of  $\frac{1}{4}$  to 6 hours' duration. These are given at a moderately warm temperature every second day for intense pruritus, pruritus senilis, prurigo, eczema, pityriasis, psoriasis and ichthyosis. Jessner (*Dermatologische Heilmittel*, p. 42) advises baths containing, each, 50.0 ichthyol for scleroderma.

ICHTHYOL SOAP in strengths of 10 to 20% is made with a superfatted base and is recommended by Unna and others as a useful adjuvant in the treatment of acne, rosacea, pruritus and decubitus. The same soap base is made up to contain salicylic acid in addition to the 10% of ichthyol. The indications are the same as the first mentioned.

To be of use, the soap must be freely applied to the part in the form of a thick lather and allowed to dry and remain for a certain length of time on the affected area.

ICHTHYOL POWDERS are used for burns of the first degree and other acute inflammatory conditions. Martin (*Formulaire Magistral*, p. 517) recommends:

R	Ichthyol .....	2.0
	Peroxide of zinc .....	5.0
	Carbonate of magnesia .....	10.0

ICHTHYOL IN HYPODERMIC INJECTIONS. Damiens used ichthyol containing 25% of sterile water in the form of hypodermic injections for the relief of herpes zoster, intercostal neuralgia, etc. By means of experiments on rabbits, he found these injections to be free from danger even when comparatively large amounts of the drug are used. He found that such injections were not painful, non-toxic and that they possessed marked sedative properties in the treatment of obstinate neuralgias.

ADJUVANTS TO ICHTHYOL. In the foregoing notes I have referred to the action of ichthyol when used singly, pure or in various concentrations. The reader's attention has also been called to the fact that in many cases ichthyol alone seems to be without influence. My experience leads me to believe that in such instances the effect of this therapeutic agent should be intensified by combination with salicylic acid or a mild reductant such as resorcin or sulphur. In the case of dermal infiltrations of long standing, chrysarobin, 5 to 10%, may be added to ichthyol with advantage. Tar, in the form of *oleum eadui* or *tinctura rusei*, is also a valuable adjuvant where alterative effect is desired. Iodine constitutes, in my opinion, the best addition when antiseptics is sought, although regarded by some writers as an incompatible. Carbolic acid is recommended for this purpose by Unna. Gelatine is a good adjuvant for leg ulcers, zinc oxide for burns and Peru balsam and turpentine oil for frostbite.

ICHTHYOL AS AN ADJUVANT. If ichthyol had fewer incompatibilities, a lighter color and a less pungent odor, it would deserve to be called the ideal adjuvant. Its mild reducing and antiphlogistic influence enable it to improve by its incorporation a large number of dermatological applications. Not only does it act directly on the skin, but when combined with irritant remedies (pyrogallol, chrysarobin, etc.) and those to which, like tar and sulphur, idiosyncrasy is common, ichthyol seems to diminish their tendency to cause a dermatitis and thus will frequently make their use possible and beneficial in individuals who could not tolerate such drugs when used alone.

TO DEODORIZE ICHTHYOL quite a number of substances have been recommended. When making a choice of them care should be exercised to avoid diminishing the therapeutic activity of the drug or to render it irritating to the skin. The odor is most pungent and offensive to sensitive patients when the pure ichthyol is applied or solutions of it in water or, particularly, in alcohol and ether. Ichthyol soap usually smells badly. But when used as a collodion all odor disappears at the end of half an hour. Crocker (*Diseases of the Skin*, 3rd ed., p. 80) considers ichthyol least objectionable when combined with a zinc gelatine paste.

Chatelain (*loc. cit.*) claims that 40 drops of the essence of mirbane to 100 drops of ichthyol will deodorize the latter completely. Ullmann (*loc. cit.*) uses 2% of cumarin or 1 to 2% of oil of wintergreen. Taenzer (*loc. cit.*) advises 1% each of oil of bergamot and oil of eucalyptus, while Lorenz recommends the addition of a few drops of an alcoholic solution of equal parts of vanillin and cumarin. I have found the addition of  $\frac{1}{2}$  to 1% of phenol to greatly diminish and render unobjectionable the odor of ichthyol.

ODORLESS ICHTHYOL has been made by treating ichthyol with peroxide of hydrogen, but the United States Dispensatory (*loc. cit.*) considers it questionable, however, whether the removal of the odorous constituents does not impair the therapeutic activity of the drug.

STAINING BY ICHTHYOL. This does not always occur, even after the use of the undiluted drug, but when it takes place the skin appears brown as though sunburned. Unna (*loc. cit.*) states that the continued use of the drug results in the skin again becoming white.

In my own practice, I have found that this remedy often discolors the mouths of the hair follicles and pilosebaceous glands giving, especially in patients with kerosis and seborrhœa, the appearance of innumerable blackheads. The discoloration can be removed by massaging the face with rectified petroleum, wiping off the latter carefully and then washing with soap and warm water.

TO REMOVE ICHTHYOL STAINS from underwear, bed sheets or towels, it is only necessary to rub soft soap or soap tincture into the spots and rinse thoroughly with hot water.

ICHTHYOL DERMATITIS. The effect of ichthyol upon the skin is usually so unirritating as to enable the undiluted drug to be painted on daily without inconvenience to a majority of patients. If, however, oiled silk or other impermeable tissue be used to cover the surface so treated, a certain macerating effect upon the epidermis is produced and a dermatitis may result. Furthermore, the addition of even small amounts of salicylic acid, resorcin, sulphur or chrysarobin to ichthyol renders the latter not only more active but also more irritating and prone to inflame the skin. Such combinations are most useful in many conditions, but the possibility of a dermatitis resulting from their use should not be forgotten. To avoid such irritant action from ichthyol, Lorenz (*Das Ichthyol in der Militärgesundheitspflege, Deutsche Militärärztliche Zeitschrift*, 1885, xiv),

recommends washing the part with soap and water daily before applying the drug. Otherwise redness and swelling followed by vesicles and pustules may appear.

Dawbarn (*Ichthyol*, *Med. Jour.*, New York, Sept. 3, 1911, p. 406) reports a case of violent dermatitis following the use of mercurial ointment to which 10% of ichthyol was added. This was the first instance of dermatitis during Dawbarn's thirty years' use of this mixture. He quotes Dr. Louis Heitzmann as having found a 10% ichthyol ointment irritating and capable of producing blisters in half an hour, although usually bland. The author, who appears to have overlooked the possibility of the dermatitis reported being caused by the mercury of the ointment, believes the irregular action of the ichthyol to be due to toxins or ptomaines of diseased fish in the ichthyol deposits.

Two very interesting cases of ichthyol dermatitis are reported by J. C. McGuire (*Eruptions of the Skin Produced by Local Applications of Ichthyol*, *Med. Rec.*, Oct. 17, 1896, p. 555; reviewed by Pernet in the *Brit. Jour. Dermat.*, 1896, viii, p. 477):

CASE 1. A scaly eruption of several weeks' duration on the backs of one hand and wrist was treated with a mild ichthyol ointment and became worse. Dr. McGuire, unaware of the previous treatment, ordered an ointment of lanoline and water with 15% ichthyol. The next day, the parts were more swollen and exuded serum from many ruptured vesicles, while pain and burning were complained of. Lotions and dusting powders were substituted for the ointment, but the parts became much worse and a vesicular eruption appeared on the face, of which the nose and lids were much swollen and the eyelids closed. After these symptoms had subsided completely, the original ichthyol ointment was, with the patient's consent, applied to the unaffected hand and wrist. This resulted in the occurrence of the symptoms similar to those which followed the first application of ichthyol.

CASE 2. One week before seeing the author, the patient had used an ichthyol ointment for a severe sprain of the left knee and had also rubbed it into the skin of the calf and thigh. Dr. McGuire found the skin from thigh to ankle intensely red and with much serous exudation. The face was very much swollen and the eyelids closed. On the right leg a few discrete vesicles were noticed. The itching was intense. Under cooling lotions and dusting powders, the eruption disappeared completely, but the itching persisted, causing the patient to become nervous and hysterical from worry and loss of sleep.

As has been stated above, such instances of dermatitis from the use of ichthyol are exceedingly rare.

TOXICOLOGY. Baumann and Schotten (*Monatsh. f. prakt. Dermat.*, 1883, ii.) found that in dogs very large doses of ichthyol (18.0 to 24.0 per day) caused diarrhœa regularly. Smaller doses had little or no effect. The dogs recovered completely from their diarrhœa. The urine remained normal in color and odor and contained an increased amount of sulphur derivatives.

Hyde (*Diseases of the Skin*, 8th ed., p. 116) states that unpleasant results have been reported as following the application of ichthyol by Sinclair. A two months' old infant sank into a stupor two hours after



its head and limbs were smeared with an ointment with 20% ichthyol in vaseline.

Von Nussbaum (Ueber den inneren Gebrauch des Ichthyols, *Therap. Monatsh.*, 1888, No. 1, p. 9) in order to prove the harmlessness of ichthyol in large doses, took 5.0 (75 grains) daily and noticed no bad effects. Damiens (loc. cit.) gave as much as 20.0 to rabbits without injury.

Liebreich and Langgard (*Arzneiverordnung*, 6. Aufl., p. 437) claim that nausea, hyperidrosis and erythema may follow large doses. Cushny (*Therapeutics*, 2nd ed., p. 382) believes ichthyol to be only very feebly poisonous, but large doses may irritate the stomach and intestines and cause diarrhœa. Zuelzer (loc. cit.) found the lithium salt liable to produce this effect.

### BIBLIOGRAPHY

A full bibliography will be found in Merek's booklet on Ichthyol, while Chatelain's article in the *Journal des maladies cutanées et syphilitiques*, for May, 1903, contains a well-chosen list of articles on the subject.

NOTE.—The next installment of *Dermatological Therapeutics* will appear in the November issue of *THE JOURNAL*, and will deal with the important drug "Chrysarobin."

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### OBITUARY.

#### DR. PRINCE ALBERT MORROW.\*

Our esteemed associate, DR. PRINCE ALBERT MORROW, died the 17th of March of this year, in the 67th year of his age. His last years had been employed in a new field of activity, to which he had devoted time and energy unremittingly. It was only when over-taxed powers gave alarming signals of distress, a few months before his demise, that he was forced to desist from the more arduous work, though to the very end he retained the leadership of the cause for which it may truly be said he gave his life.

The circumstances are unusual and well worth recording. It is not often that a man finds himself beginning the most strenuous and most productive stage of his career when nearing the three score year mark. Long before this period, Dr. Morrow had achieved an enduring reputation as practitioner, teacher, writer and authority in those particular departments of medicine for which this Association stands. In the year 1900-1901, he was our President. He was long an active member of the New York Dermatological Society, where always his presence was most highly prized and where now his absence is sadly felt. For six years, from 1886 to 1901 inclusive, he was the able and self-sacrificing Editor of *THE JOURNAL*, then known as the *Journal of Cutaneous and Genito-Urinary*

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

Diseases, in which work he had previously been associated with Dr. Piffard. From 1884 to 1904, he was one of the Attending Faculty of the City Hospital, first in the Dermatological, later in the Genito-Urinary service and from 1890 to 1904, Attending Physician to the corresponding departments of the New York Hospital. At the New York University and Bellevue Hospital Medical College, he was Lecturer on Dermatology in 1882-83, then Clinical Professor from 1886 to 1890 and thereafter Professor Emeritus.

Abroad, his standing as an authority was widely recognized. He was corresponding member of numerous foreign societies, such as La Société française de dermatologie et de syphilographie, La Società italiana de dermatologia, Die Wiener dermatologische Gesellschaft and La Academia de medicina de Mexico. He was also made Honorary Member of the Italian Physico-Chemical Society of Palermo.

Morrow excelled as a writer. He expressed himself impressively and in style and diction his writings were on a decidedly higher plane than the average that is generally accepted as sufficient in medical literature. Among his more important contributions, may be mentioned "Drug Eruptions," 1887; "An Atlas of Skin and Venereal Diseases," 1888-89; "A System of Genito-Urinary Diseases, Syphilography and Dermatology," three volumes, 1892-94; "Leprosy," in 1889, which followed a visit to the Sandwich Islands, Mexico and Louisiana, for the purpose of studying the disease in regions where endemic. In 1880, he translated and edited Alfred Fournier's "Syphilis and Marriage." It is very probable that his occupation with this work first gave to his mind the trend that *gradually* led to his engrossing himself in the broader field of the relations of venereal diseases to society and the public welfare. It was, however, not until fourteen years later, in 1904, that his book on "Social Diseases and Marriage" appeared. This work, both for its excellence in style and elevation in tone, as well as for the completeness and cogency with which the subject matter was presented, deserves to rank as a classic of medical literature.

Heretofore, Morrow's activities had been those of the specialist—not a mere specialist—but essentially the specialist. Now, with higher aim and broader view, he was seeking a way out of a great evil. He was aiming at a broad scheme of prophylaxis that embraced remedial measures of a wide scope, including such as were educational, moral, sanitary and legislative. The task involved was beset with difficulties, many-sided and intricate. He had to reckon with ignorance and with apathy, with deep-seated prejudice and prudish timidity. The first measure proposed in the way of prophylaxis related to sex hygiene and sex education and to the wiser methods of imparting to the young such instruction as should forewarn and so forearm; appease natural curiosity, without at the same time stimulating vagaries of the imagination that are harmful. Included in the scheme of education was the *dissemination* of correct information with regard to the prevalence, the perils and consequences of sexual diseases, especially as concerns marriage; the falsity of many views regarding prostitution and the wisest methods for its control; the services that should be rendered by Boards of Health in prophylaxis of venereal in common with other communicable diseases that menace society. These and other matters that were liable to encounter preconceived opinions were approached with tact and discretion.

The year following the publication of this book, there was organized the Society of Sanitary and Moral Prophylaxis, with Dr. Morrow as its President, in which office he was retained until his death. At the Seventh Anniversary Meeting of the Society last year, the President in his report describes the modest inception of the movement as follows:

"On Feb. 8, 1905, a handful of half-hearted men met in this hall in response to a call for a meeting to discuss the wisdom and expediency of forming an organization for the specific object of the study and prevention of the spread of the Social Evil. Only about twenty-five persons responded to the call and the

array of empty benches was so dispiriting that the meeting was adjourned to an adjacent smaller room. The movement so inauspiciously launched, started slowly, hesitatingly, then advanced with more certainty and courage, until now it has gained recognition and respect and achieved no small measure of success."

Though difficult now to estimate what that measure of success was, it certainly has been far from small and whatever it is or may be, it will always owe a great debt to the leadership and dogged pertinacity of Dr. Morrow.

The momentum of the movement carried it far beyond the centre of its inception. Societies similar in character to that established in New York were organized in many different states; one in Mexico, and one even as far away as New Zealand. As a culmination of this scheme, Dr. Morrow urged and effected the formation of "The American Federation for Sex Hygiene" for the unification of the work in this country and, in 1910, was begun the issue of a quarterly report under the title of "Social Diseases: Report of the Progress of the Movement for Their Prevention."

Educators, college professors, sociologists, clergymen, jurists and physicians—men of light and leading everywhere—as well as many high-minded and philanthropic women, caught the spirit of the reform and gave it substantial aid and encouragement. For the dissemination of correct information concerning sex hygiene and the evil consequences of sexual diseases, funds were raised and pamphlets, prepared with great care, for the most part from the pen of Dr. Morrow himself, were widely distributed.

It is noticeable that within a few years there has been a great awakening of the public interest and the public conscience with regard to the matters concerned in this movement. Topics that heretofore had been treated as something to be mentioned only *sub rosa*, notwithstanding their vital importance to the well-being of society, have come to be discussed publicly as never before—in large assemblies, in periodicals, in the daily press, in current literature—and latterly, even on the stage. The light has been turned on. Among the forces for the betterment of the ills of humanity, the most potent is enlightenment. It is the stream of truth that has now begun its purging flow through our Augean stables. And in all this great movement the prime mover and master-workman was Dr. Morrow.

At a meeting of the Section on Sex Hygiene of the International Congress of Hygiene and Demography, held in Washington last September, the credit due to Morrow's work was acknowledged in a resolution presented by Professor Welch of Johns Hopkins, the words of which in part were as follows:

"Whereas, both the nations abroad and the American citizens at home recognize and pay tribute to the splendid devotion and services rendered by Dr. Prince A. Morrow in the difficult pioneer work of preparing the people for a knowledge that will enable them to safeguard their homes against influences hitherto unrecognized, misunderstood, or deliberately ignored:

"Be It Resolved, that the participants in this Section on Hygiene and Demography, consider it a privilege to make public record of their sense of obligation to Dr. Morrow for his courageous and unflinching attitude in the face of difficulties that would have discomfited an ordinary man and of admiration for the achievement that has culminated in the prominent position that education in sex hygiene has commanded in the deliberations of this Congress."

After further expressing to Dr. Morrow "The gratitude not only of the American people, but of the world of nations," it provided that this minute should be "suitably engrossed, signed by the Chairman and the Secretary, and presented to Dr. Morrow."

Such a tribute is exceptional. It is not paid to Morrow, the physician in the ordinary sense, but to Morrow, the man. He had before received many honors that were essentially professional. They were honors bestowed on him as a physician in a special department of medicine. But the eulogium quoted above rec-

ognized achievements that were something over and beyond his professional contract. The score most to his credit was above the line of his routine work. His avocation was nobler than his vocation.

Keenly he regretted that he must leave his work unfinished. He had advanced where others had feared to tread; he had blazed the way. He had drawn after him a great throng of earnest followers, but ere the land of promise was reached his force was spent. He struggled on for a space as best he could, but death claimed him. His task was not finished and yet it was a noble try—a try for an end he valued more than life. It is a record worth remembering. It was a life worth living.

E. B. BRONSON.

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#### HENRY GILES ANTHONY.\*

HENRY GILES ANTHONY died in Chicago on July 10, 1912. He had been a sufferer for many years from a disease of the hip, which greatly impaired his physical health, but in no way diminished his mental vigor or his professional enthusiasm. His death was the termination of several months of harassing illness.

Anthony was born in Chicago, Dec. 12, 1859. He was the son of Judge Elliott Anthony and Mary Dwight Anthony. His father, for many years a Judge of the Superior Court of Cook County, was one of the most highly respected members of the Chicago Bar. He was particularly distinguished for his literary bent, which was evidenced among other ways by the accumulation of one of the largest private libraries in the West. Anthony's mother was a grand-daughter of President Timothy Dwight of Yale College and through her he was a direct descendant of Jonathan Edwards. Anthony thus acquired by inheritance and by association, the strong scholarly tastes which characterized him.

He received his general education in the Chicago public schools and graduated from the old Chicago High School. In 1884 he received his medical degree from Rush Medical College. Soon after graduating he went to Europe to continue his medical education and spent the five years until 1889 abroad, chiefly in Berlin, Strassburg, Vienna and Paris. While abroad, he gave himself a thorough grounding, not only in dermatology, which he had decided to make his specialty, but in general medicine as well. He returned to Chicago and began the practice of dermatology in 1889 and for the twenty-three years between that time and his death, he worked in this specialty with whole-hearted enthusiasm and with more zeal than his frail physique warranted.

Long since, he took his place as a representative dermatologist, and he held the positions that justly belonged to a man of his attainments. At the time of his death he was Professor of Skin and Venereal Diseases in the Chicago Polyclinic and Assistant Professor of Dermatology in Rush Medical College. He was an industrious clinician and besides attending as dermatologist to the Polyclinic Dispensary and the Central Free Dispensary, he was dermatologist to the Henrotin Hospital and to the Children's Memorial Hospital, where he did much valuable work. Anthony's contributions to dermatological literature are only an inadequate measure of his industry in dermatology, for he gave unending work to his papers and so they appeared at infrequent intervals. I think I know no one of us whose papers were preceded by so painstaking and thorough an examination of his subjects as were Anthony's. Among his papers are the following:

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

1891. The Etiology of Carcinoma. *Med. Record*, Chicago, 1891, i, p. 225.
1897. The Treatment of Syphilis by Hypodermic Injections of Insoluble Salts of Mercury. *Med. Record*, Chicago, 1897, xiii, p. 229 (discussion, p. 278).
1898. Impetigo Contagiosa. *Jour. Cutan. Dis.*, 1898, xvi, p. 227.
1902. Cutaneous Tuberculosis. *Med. Jour.*, Colorado, 1902, viii, p. 383.
1903. The Relation of Lupus Erythematosus to Tuberculosis. *Jour. Am. Med. Assn.*, 1903, xl, p. 77.
- Report of Case of Fibroma Molluscum. *Ibid.*, 1903, xl, p. 1630.
- Ulcers of the Leg. *Medical Standard*, 1903, xxvi, p. 447.
1904. Developmental Defects of the Skin and Their Malignant Growths. *Jour. Am. Med. Assn.*, 1904, xlii, p. 1606.
1905. Folliclis of the Skin and of the Conjunctiva: Report of a Case. *Jour. Cutan Dis.*, 1905, xxiii, p. 337.
1906. The Prodromal Erythema of Varicella. *Ibid.*, 1906, xxiv, p. 68.
- Syphilis of the Male Genito-Urinary Organs. *Med. Jour.*, Illinois, 1906, ix, p. 219.
- Scrofula. *Ibid.*, 1906, ix, p. 492.
- Report of a Case of Parakeratosis Variegata. *Jour. Cutan. Dis.*, 1906, xxxiv, p. 455.
1907. The Acrodermatoses of Scrofula, Hyperidrosis and Granulosis Rubra Nasi. *Jour. Cutan. Dis.*, 1907, xxv, p. 241.
1908. Pigmentations of the Mucous Membranes of the Mouth. *Jour. Am. Med. Assn.*, 1908, li, p. 1685.
1910. The Skin Manifestations of Congenital Syphilis. *Jour. Am. Med. Assn.*, Abst., 1910, lxi, p. 342.
1912. The Toxic Origin of Erythema Multiforme. *Jour. Cut. Dis.*, 1912, xxx, p. 152.

Anthony has been a member of this Association since 1903; whenever, through illness, he was compelled to miss one of its meetings, I know from his statements to me that it was a keen disappointment to him. He was one of the founders, one of the most faithful and valued members and an ex-president of the Chicago Dermatological Society. It is less than the fact to say that his absence from the meetings of that little club is a loss of which its members are distinctly conscious. In its meetings, in intimate discussion of interesting cases, he showed to brilliant advantage. He was a careful observer, had had a large experience and was unusually ingenious in clearing up obscure diagnoses. It was always a matter of interest to hear what Anthony had to say about a doubtful case under discussion. He was not always right, but he was always suggestive and he taught us more than we taught him, for he had one advantage over any dermatologist with whom I have come in intimate contact in the great extent and exactness of his knowledge of dermatological literature.

His consuming interest was dermatology; he had an inherent zeal for knowledge and an unusually retentive memory; he was disbarred by his health from many of the diversions that consume so much of the time of many of us; and so he read all, and apparently remembered most, that was worth reading of dermatological literature in English, French and German. Whenever any one of us wanted direction to some rare subject in dermatology, the easiest way to get it was to ask Anthony. Anthony, like most persons who are compelled to forego the free and easy associations of daily life, was sensitive and reserved; but once through the barrier, he was a good comrade, ready to give and take, frank and genial.

Anthony was a credit to dermatology. He was a scholar. His ideals were high and he was faithful to the best of them. He had courage based on knowledge; he was stalwart in his convictions and he was vigorous in his statements, but, with these strong qualities, he had an open mind and could see the truth.

W. A. PUSEY.

## SOCIETY TRANSACTIONS.

## NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, May 27th, 1913.

JEROME KINGSBURY, M.D., *Chairman.*

## LEPROSY. Presented by DR. GEORGE HENRY FOX.

Mrs. X., born in Russia and 17 years in this country, was under the care of Dr. Weissman. Five years ago she began to complain of severe pain in the feet, which had since persisted in spite of treatment. When presented, she showed characteristic macular and nodular lesions upon the trunk and extremities, with moderate anæsthesia. The ulnar nerves were enlarged and sensitive to touch. The special feature of the case was the intense neuralgia affecting the feet. She was unable to take chaulmoogra oil in any form without nausea.

DR. WINFIELD said that he had had this case under his care last summer for three months. A neurologist had diagnosed it as a nervous affection and asked him to see it, and he at once made the diagnosis of leprosy. She did not then have the tubercles, but suffered from the intense neuralgia. She had disappeared from observation before he could make any laboratory tests.

## ADDISON'S DISEASE. Presented by DR. HOWARD FOX.

The patient, Ida J., was a girl, 15 years of age, born in Roumania of Jewish parents. She was brought to this country as an infant. Her mother had died in childbirth. Her father and a brother of 13 were said to be living and healthy. The family history was negative. She patient had apparently escaped the usual diseases of childhood, and claimed to have always enjoyed good health until the beginning of her present illness. This was first noticed about nine months ago, when the patient began to complain of attacks of dizziness in the morning and to feel generally weak. About the same time she began to notice a general darkening of the skin. This had gradually increased in intensity up to the time of presentation. The attacks of dizziness had been lately controlled by treatment, though the feeling of weakness continued. She had lost altogether about nineteen pounds. There had never been any gastrointestinal symptoms. The appetite had been fair and the bowels regular. At times she had suffered from pain in the side, particularly after exertion. She had menstruated about six times in the past two years, the flow being scant and not accompanied by excessive pain. There was no history of any malarial attacks, and the patient denied having taken any medicine whatever, previous to the pigmentation. Examination showed a slim, delicate girl, whose entire skin was deeply bronzed like that of an

Indian or a mulatto. The pigmentation was universal, being more marked where pigment was normally most intense. The skin was otherwise normal in appearance. There was no evidence of any scratching, no scaling and no acanthosis. There was a slight brownish pigmentation of the gums and of the buccal mucous membrane near the corners of the mouth, the palate being unaffected. The hair and iris were of a dark brown color. There were no signs of tuberculosis in the lungs. The urine contained no sugar or other abnormal ingredients.

CASE FOR DIAGNOSIS. LESION OF THE EYELID. Presented by DR. HOWARD FOX.

The patient, Rose S., was a girl, 12 years of age, born in the United States of Jewish parents. She stated that the eruption had not appeared until about 10 months ago. It had caused some itching at first, and at one time showed a little crusting. Examination showed a diffuse thickening of both the upper eyelids. The skin was smooth to the touch, but apparently showed the presence of a number of telangiectases and a few whitish horizontal streaks resembling scars. She had never been treated by X-ray, according to her statement. Except for the short duration of the condition, a diagnosis of *nævus* would have seemed most probable.

DR. FORDYCE said that the capillary dilatation suggested a *nævus*.

FAVUS OF THE BUTTOCK. Presented by DR. KINGSBURY.

The patient was a female child, about 5 years of age, who presented on the left buttock a group of sulphur-colored cups the size of a silver quarter. The mother was positive that the lesions had been present less than a week.

LEPROSY. Presented by DR. MACKEE for DR. FORDYCE.

The patient, a married woman of 47, was from Dr. Wise's service at the Vanderbilt Clinic. She was born in Hanover, Germany, and had been in this country for fifteen years. Her disease appeared on the face one year ago. When presented to the Society there were several infiltrated, yellowish-brown plaques, ranging in size from a dime to a silver quarter on the chin and cheeks. The lobes of the ears were thickened, of a dark red color and scaly. On the back, between the shoulders, there were several palm-sized, yellowish-brown, slightly infiltrated plaques, which exhibited a slight anæsthesia. The ulnar nerves did not appear to be enlarged. There were numerous deep-seated nodules as large as a walnut, covered with skin that was normal in color and split-pea-sized, brownish, superficial nodules on both arms and forearms. The hands and fingers were markedly enlarged and of a brownish-red color. The woman was in good general health and suffered no pain. The blood was normal. The speaker said that this was the fifth case of leprosy seen at the Vander-

bilt Clinic in less than a month, not one of which had visited another clinic.\*

RAYNAUD'S DISEASE. Presented by Dr. HOWARD FOX.

The patient, Marie J., was a Jewish woman, 37 years of age, born in Russia. She had been married 16 years and had one son 15 years of age. Her husband had been treated 5 years previously at the Vanderbilt Clinic for an ulcerating gummatous syphilide. He was said to have contracted the disease before marriage. The patient gave no history of syphilitic infection and showed a negative Wassermann reaction. The son also showed no stigmata of hereditary syphilis. The patient had suffered from the usual diseases of childhood.

About 11 years ago she had first noticed the attacks of "dead fingers." These were at first confined to the little fingers, but later included the other phalanges in order, the thumbs not being involved until a few years ago. The toes were also first affected about 11 years ago. She could not state definitely which of the toes had been first affected, not having observed them as closely as the fingers. During a typical attack, one or more fingers or toes became icy cold, bloodless and numb, after which they became dark bluish, then reddish, and finally normal in appearance. Such attacks lasted from one-half to one hour or longer, and occurred several times a day in winter. They were generally worse in cold, rainy weather, and were also more frequent and severe when the patient was nervously excited or actively engaged in house work. Putting the hands in cold water or handling ice did not necessarily bring on an attack. When the attacks began, however, they were greatly aggravated by the slightest contact of either warm or cold water. Since the onset of the disease, the attacks had not abated for any appreciable time, though they had been milder, as a rule, in summer. During the past few months, they had been particularly severe. For a number of years, the face had also exhibited somewhat similar attacks, except that the anæmic stage was very short-lived, while the stage of congestion was relatively much longer. The nose, ears and cheeks were particularly involved in these attacks and, as in the case of the hands and feet, were accompanied by more or less swelling. At times the tongue became numb, though not swollen. For the past 5 years, she had suffered from occasional attacks of vomiting, particularly after some mental excitement. At times she had also suffered from fainting and hysterical attacks. Until recently the menses had always been regular. At the time of presentation, the patient failed to show the typical attacks of Raynaud's disease. Practically all of these phenomena had been previously observed by Dr. Fox, not only recently, but also when the patient was seen about 5 years ago. She appeared to be in fair health, was well nourished, and was of an extremely neurotic appearance. The

\* One of the tumors was excised for histological study and the Hansen bacillus was demonstrated in the stained specimen.



pulse was 92, small, regular. There were no heart murmurs. The urine showed nothing abnormal. She had never received much benefit from treatment.

**PSORIASIS OF THE PALMS.** Presented by DR. SCHWARTZ.

The patient presented extensive psoriasis of the palms with very few lesions on the body. She had some small patches of psoriasis over the sacrum, one around the umbilicus, and a pin-head sized spot on the extensor surface of the right knee. The left knee and the elbows were free from eruption. The condition had been present three months, and the patient reported a similar condition of the palms ten years previously.

**ERYTHRODERMIE CONGENITALE ICHTHYOSIFORME.** Presented by DR. KINGSBURY.

The patient was a healthy well-developed girl, 12 years of age. She presented the erythematous patches on the back, chest, abdomen and face, and ichthyotic lesions on the lower extremities, forearms, neck and in the axillæ.

DR. WHITEHOUSE agreed with the diagnosis. The little girl's skin trouble seemed to conform to the type which Brocq described as ichthyosiform erythroderma. The erythematous lesions were watched from time to time while under his care, and would vary within twelve hours.

DR. GEORGE HENRY FOX said that the patches might be described as ichthyosiform, but objected to the diagnosis of ichthyosis as a large portion of the skin was perfectly smooth and normal.

DR. DABE said that he had had a case of ichthyosis very much like this one. It was known as ichthyosis rubra, and was a rare condition.

DR. FORDYCE agreed with the diagnosis of ichthyosiform erythrodermia. He had seen cases where the erythema was much more marked than in this case and the ichthyosis less pronounced.

**ERYTHEMA MULTIFORME.** Presented by DR. MACKEE for DR. FORDYCE.

The patient, a girl of 18, was from Dr. Wise's service at the Vanderbilt Clinic. Three weeks ago she developed an inflammation of the buccal mucosa. One week later, erythematous patches appeared on the forearms and arms. When presented to the Society she exhibited a marked stomatitis; the tongue was swollen, red and heavily coated. The mucous membrane of the cheeks and fauces was congested and there were several superficial ulcers. The lips were swollen and crusted. The breath was offensive and there was considerable local discomfort. There were, in addition, groups of herpes iris lesions on both wrists and in the neighborhood of the elbows. The patient suffered from headache, constipation, malaise and loss of appetite.

**NÆVUS LINEARIS.** Presented by DR. KINGSBURY.

The patient was a woman about 45 years of age, who had applied at the Skin and Cancer Hospital for treatment of a small epithelioma on her nose. A lesion of greater clinical interest but of less concern to the patient was a birthmark on the left side of her jaw. This was a papular growth of irregular shape. It was about three-quarters of an inch wide and an inch and a half long, with a narrow tail-like projection nearly two inches in length.

**HYPERTROPHIC LICHEN PLANUS, WITH TRAUMATIC LESIONS.** Presented by DR. MACKEE for DR. FORDYCE.

The patient, a woman of 40, was from Dr. Wise's service at the Vanderbilt Clinic. She exhibited a patch of hypertrophic lichen planus on the right shin. The unusual feature of the case was a number of parallel linear lesions on the inner aspect of the same limb. These lesions were from half an inch to two inches in length, and a quarter of an inch in width. They were elevated about one eighth of an inch above the niveau, were of firm consistence, pale red, smooth, and the original papular element was lost. They had the appearance of keloidal tissue.

**ATHEROMA MULTIPLEX.** Presented by DR. KINGSBURY.

The patient was a poorly nourished woman, 52 years of age. The lesions had been present on the face and vulva for over seven years. The largest cysts were found on the labia majora; some were as large as a hazel nut.

**EPITHELIOMA OF THE LOWER LIP OF A WOMAN.** Presented by DR. MACKEE.

The patient, a Jewess, about 60 years of age, was from the service of Dr. Wise at the Beth Israel Hospital. On the left side of the lower lip, midway between the commissure and the centre of the lip, there was a dime-sized lesion of 8 months' duration. It consisted of an ulcer which was surmounted by a deep and exceedingly hard induration. The woman stated that she had never smoked, nor had she been in the habit of holding a pencil, toothpick, or other object in the mouth. Dr. MacKee said that epithelioma on the lower lip of a woman was an unusual occurrence.

**CASE FOR DIAGNOSIS (ATYPICAL PSORIASIS?).** Presented by DR. WINFIELD.

The patient came to Dr. Winfield about a year ago with a condition resembling psoriasis, which began on one hand, about four years ago. Recently, the other hand also was affected, and there was a spot on one of the legs. The disease had been confined to one arm for about 5 years;

recently it had started on the other. The condition had never gotten better, but had grown worse in spite of every kind of treatment that could be thought of.

DR. WHITEHOUSE thought that the condition was psoriasis.

DISSEMINATED LUPUS ERYTHEMATOSUS, SHOWING RESULT OF TREATMENT. Presented by DR. TRIMBLE.

This case was first shown at the October meeting of the Society, when every one agreed with the diagnosis. The patient was taking quinine in ten-grain doses, three times daily and was using a mild salve. All of the disease had disappeared, excepting the pigmentation.

CASE FOR DIAGNOSIS (HÆMORRHAGIC-BULLOUS LESION). Presented by DR. TRIMBLE.

Dr. Trimble stated that he had seen the patient that afternoon for the first time. The condition had existed for two years, off and on. It was a bullous, hæmorrhagic lesion beginning in the scalp and running around the man's neck and chest like a collar. There was no itching. The condition had become much more extensive in the last six months. There was one bulla in the mouth.

DR. FORDYCE thought that the lesions depended on some underlying condition of the blood and that probably traumatism had brought about the hæmorrhagic condition of the skin.

LEPROSY. Presented by DR. MACKEE for DR. FORDYCE.

The patient was from Dr. McMurtry's service at the Vanderbilt Clinic. He was a West Indian negro, 17 years of age. He had been in the United States for 9 years, and the disease had existed, according to the patient's statement, for one year. There was a group of about 50 nodules in the centre of the forehead. These ranged in size from a split pea to a walnut. Similar nodules were scattered over the cheeks, ears, nose, chin and arms. The anterior and posterior surfaces of both legs exhibited an ichthyotic appearance. Both ulnar nerves were enlarged. There was no marked anæsthesia. The man was in good condition physically, but was very poorly developed mentally. He suffered no pain.

LUPUS ERYTHEMATOSUS, CHRONIC RADIO-DERMATITIS, AND EPITHELIOMA. Presented by DR. MACKEE for DR. FORDYCE.

The patient, a single man, 40 years of age, an Austrian, was from Dr. Wise's service at the Vanderbilt Clinic. He had had a discoid lupus erythematosus involving the face and ears, which had been exposed to X-ray repeatedly over a period of several years. When presented to the

Society, the ears were very atrophic. The entire face was the seat of extensive telangiectasia, atrophy and keratoses. On both cheeks could be detected patches of active lupus erythematosus. On the right cheek, over the angle of the inferior maxilla, there was a patch of lupus the size of a silver dollar, in the centre of which was a smooth tumor the size of a small chestnut. This tumor, which was possibly an epithelioma, had been excised and the results of the histological study would be presented to the Society at its next meeting. Dr. MacKee said that he was of the opinion, if this proved to be an epithelioma, that it was probably secondary to the radio-dermatitis, as were the numerous præepitheliomatous keratoses scattered over the face. The skin of the patient's face was the counterpart of that seen on the hands of our pioneer X-ray operators. A few cases of epithelioma developing upon the scar of a lupus erythematosus had been reported, and the speaker said that it would be interesting to ascertain how many of these cases had received excessive X-ray treatment, and whether or not the malignant degeneration was due to the lupus or to the X-ray.

DR. DADE said that he had seen the patient at the Vanderbilt Clinic some months after the X-ray treatment, and his face then was very red. The appearance of the skin showed improvement. Epithelioma was not at all an infrequent result of X-ray burns.

DR. SHERWELL said that he had seen the same telangiectatic result caused by two exposures of the X-ray in making X-ray pictures. The man was being examined by the radiograph for stone. They got the pictures—only two exposures—but no stone was found, and a cancer developed in the centre of the burn occasioned by the X-ray. He recovered from this after a very unusual method of operation, but still had the scars and telangiectatic condition. There had been no recurrence since operation.

DR. WHITEHOUSE also thought that the epitheliomatous process was developed by the X-ray treatment.

#### ACUTE DISSEMINATED LUPUS ERYTHEMATOSUS. Presented by DR. MACKEE for DR. FORDYCE.

The patient, a man of 35, was from Dr. McMurtry's service at the Vanderbilt Clinic. There was a history of a penile ulcer eight or ten years ago. Three weeks ago, he developed an eruption on the back of the neck, which soon spread to the face, ears and hands. When presented to the Society, both cheeks, both ears, the nose and chin exhibited a diffused, bright-red, scaly eruption. The skin was infiltrated and the scales were adherent. On close inspection, telangiectasis was noticeable. There was no atrophy, nor could the patulous follicular orifices of lupus erythematosus be detected. On the forehead were a number of smooth red nodules that showed a tendency to become grouped. These nodules ranged in size from a split pea to a ten-cent piece, and were considerably elevated. Similar nodules were scattered over the cheeks, excepting that here the overlying skin was scaly. On the front of the neck and the upper end of the chest there were several superficial, red, scaly patches, the size of a dime.

The ears were markedly infiltrated and sealy. On the back of the neck, the eruption consisted of confluent patches which were red, thick, and covered with dry, adherent scales. Some of the patches were so infiltrated, elevated, and nodular as to suggest the possibility of a granuloma. On both hands were a few lesions similar to those on the chest and front of the neck. Itching, while present, was not troublesome. The patient was in good general health. Dr. MacKee said that he thought the case was one of acute lupus erythematosus of Crocker's nodular type. He also said that a piece of tissue had been removed for histological study, and that blood had been taken for a Wassermann test. The results of these studies would be submitted to the Society at its next meeting.

Dr. BRONSON said that it seemed more like syphilis than lupus erythematosus.

Dr. TRIMBLE said that on a clinical examination he would not hesitate to call it syphilis. The lesions on the forehead and neck were very characteristic of syphilis. Though it was unusual to see such ears in syphilis, he had seen several luetic patients with a facies of this kind.

Dr. WINFIELD thought that the condition was syphilis.

Dr. FORDYCE said that he had never seen a case of lupus erythematosus in which the nodular development was so marked as in this instance. The lesions on the back of the neck were distinctly granulomatous and strongly suggested syphilis. To his mind, the entire picture was one of syphilitic infiltration rather than a lupus erythematosus. Although a syphilitic infiltration of the external ear was rare, there was no logical reason why it should not be met with. The Wassermann test would probably decide the diagnosis.

Dr. DADE said that it was erythematosus lupus. The "butterfly" condition over nose and cheeks, involvement of both auricles, the inflammatory condition rather than one of infiltration and deposit, fine scales, and color, were all in favor of erythematosus lupus. As against syphilis, was the symmetrical involvement of the auricles. This condition in syphilis was an extreme rarity, a fact that seemed to be but little known. In no case of syphilis at the Vanderbilt Clinic in 18 years had the auricles been seen to be involved, and he remembered no case having been presented before the Society. He had always been on the watch for it, as had also his associates at the clinic, and he had yet to see a case.

Dr. GEORGE HENRY FOX agreed with Dr. Dade that syphilis rarely, if ever, affected the auricles, and suggested that the members be asked to present to the Society all the cases of syphilis affecting the external ear that they might see in the future.

Dr. SHERWELL suggested that the patient be put on the old mercury and iodide of potassium treatment, in order to establish the diagnosis, rather than the recommended salvarsan treatment which caused a curative effect on other conditions than syphilis.

Dr. TRIMBLE asked if the patient had any history of chancre, to which Dr. MacKee replied that he had had one five years before.

#### EPITHELIOMA MULTIPLEX. Presented by Dr. KINGSBURY.

The patient was a man, 74 years of age; born in Ireland, but had lived in this country practically all his life. His general health had always been good, but he had had psoriasis for about 45 years, and 15 years ago he had taken Fowler's solution for about 3 months; none since. He had had

no psoriatic lesions for nearly 10 years, but his history as to the development of epithelioma was not very clear. When before the Society, the man presented on the left breast an ulcerated epithelioma over an inch in diameter, and a similar but slightly smaller lesion on the left side of the neck, below the ramus of the jaw. On the trunk, there were many plaques, reddened, scaly and atrophic. These lesions were rounded and varied in size from half an inch to an inch and a half in diameter. Around the edges of some were characteristic waxy nodules. There were 17 lesions on the back, and four on the chest and abdomen.

DR. FORDYCE said that it was a very interesting case of flat epithelioma of the skin, resembling Paget's disease.

#### GRANULOMA FUNGOIDES. Presented by DR. KINGSBURY.

The patient was a small but fairly well nourished woman, 60 years of age. She was born in Russia but had lived in this country for many years. Her skin had been itchy for several years but the eruption did not appear until about one year ago. Since then it had gradually increased in extent and severity. When before the Society, the woman presented large erythematous-squamous plaques, many of which had apparently joined together. There was considerable general scaling and slight infiltration in certain places on the buttocks, neck and arms. In places, small areas of normal skin could be made out between the patches. The eruption was quite extensive, covering a large part of the trunk, arms and legs. The woman had lost weight and complained of intense itching. Local applications generally used for scaly eruptions had been of no benefit in this case.

The urine was of low specific gravity and showed a marked trace of albumen. Examination of the blood was practically negative. A microscopical examination of sections of the skin showed the horny layer of epithelium somewhat thickened. The rete malpighii was much thickened but with no special infiltration. The cutis was infiltrated with masses of cells which were larger than leucocytes and had the general appearance of a granuloma or sarcoma. Careful examination showed these cells to be ovoid in shape with little cell body and an intracellular stroma and to resemble an infiltration of sarcomatous cells. These minute areas appeared also in the deeper layer of the cutis. They were not of the nature of masses of cells in gummata or in chronic inflammation.

#### EPITHELIOMA OF THE TONGUE. Presented by DR. KINGSBURY.

The patient was a strong, healthy appearing German woman, 70 years of age. There was an irregular shaped ulceration half an inch in diameter on the right side of the tongue. The border was markedly indurated. The duration of the lesion was 3 months. There were no palpable glands. The Wassermann was negative.

## LICHEN PLANUS ANNULARIS. Presented by DR. KINGSBURY.

The patient was a small, poorly developed Cuban woman, 25 years of age. The eruption had been present for several months. There were a number of characteristic papules on the abdomen, arms and thighs but the lesions of interest consisted of a group of about half a dozen rings on the left breast. These were of nearly uniform size measuring about three-quarters of an inch in diameter.

## LUPUS ERYTHEMATOSUS. Presented by DR. KINGSBURY.

The patient was a young man, 22 years of age. The eruption had been present for somewhat over 3 years. It began on the forearms and later extended to the arms. During the past year, the back of the hands became affected and telangiectatic changes were noticed in the skin of both cheeks. In a large patch on the left arm the vaccination cicatrix had remained unaffected until about three months ago, but when the patient was before the Society the eruption was thicker and more active here than at any other point.

The blood examination showed no changes of importance but in repeated examinations of the urine, albumen was always present, together with occasional hyaline and granular casts.

The microscopical examination of sections of skin from the forearm showed the following conditions: Inflammation of the upper layers of the cutis, swelling of the epidermis, proliferation of the epithelial cells. No special congestion; layers of scales on the surface. The corium showed much connective tissue, few glands and hair follicles. No ulceration and no nodules suggestive of tuberculosis or syphilis. The process in the epidermis was one of hypertrophy, in the corium one of atrophy. The outlines of the rete malpighii and the papillæ were obliterated.

REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of

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DERMATOLOGISCHE WOCHENSCHRIFT.

(April 5, 1913, lvi, No. 14.)

Abstracted by FRED WISE, M.D.

CONTRIBUTION TO THE KNOWLEDGE OF CONGENITAL DEFECTS  
OF THE CUTIS. RICHARD WEINTRAUB, p. 389.

Of the various groups of intra-uterine lesions of the skin, those which have attracted the greatest amount of attention are forms of alopecia of the scalp, which originate from congenital disturbances, occurring as a circumscribed aplasia of the cutis and subcutis, or as congenital defects of the scalp, or as congenital atrophy of the cutis of the scalp. As these types of lesions not infrequently occur in the new-born as a result of intra-uterine trauma, in criminal assaults, attempted abortions, etc., their significance, from a forensic point of view, has been mentioned by numerous observers.

Comparatively little attention, however, has been given to this type of cutis defects, in cases where their cause or causes cannot be readily determined; it is this type with which the author deals. He reviews the literature of all the reported cases and finds that the lesions, for the most part, are situated in the median line of the scalp and that they may consist of ulcers, open wounds, crusts, granulating masses, fluctuating tumors and healed scars. All of these lesions show a tendency toward healing; in some of them, the lesions involved the aponeurosis, the periosteum and the bone, and a few of the cases presented anomalies of other parts of the body, such as polydactylia, hare-lip, intra-uterine amputation of the extremities, etc.

Histologically, two types are described. In one, the lesions are due to embryonal defects of development; in the other, to central necrosis and inflammation of the tissues. Four additional cases are described with histological and clinical studies.



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CONCENTRATED INTRAVENOUS SALVARSAN INJECTIONS. ARTHUR STRAUSS, p. 400.

The ease and facility with which neosalvarsan may be dissolved, prompted the author to administer the remedy with an ordinary syringe, using 10 cc. of water for 0.9 g. of neosalvarsan. He found that this may be done with great convenience and despatch. He employed a Record syringe, armed with two needles, one within the other, the point of one projecting slightly beyond the other. The needles are inserted into the vein with a single stroke, then the outer needle is withdrawn with the index finger of the operator—that is, it is slid backward over the inner needle, thus preventing the escape of fluid. A simple mechanical device is described, the author stating that his results have been uniformly successful in its use.

(*Ibidem*, April 12, 1913, lvi, No. 15.)

THE LIFE CYCLE OF THE MICROÖRGANISM OF SYPHILIS (LEUKOCYTOZOÖN SYPHILIDIS). J. E. R. McDONAGH, p. 413.

The author herewith sets forth his original and highly interesting and instructive views regarding the development of the microörganism of syphilis, which, he believes, is undoubtedly a protozoön.

Supported by the exhibition, in the text, of a remarkable group of microphotographs, he describes two types of sporozoites in luetic lesions, and states that these may be obtained also from blood smears taken from the healthy skin, in the immediate neighborhood of chancres. These sporozoites occur in two forms, round and kidney shaped; they possess active motility and find their way into other cells and into leucocytes, but more especially into connective tissue cells, in the last of which their development process is said to take place.

This process is manifested in two ways; in one, an active budding process takes place, resulting in the production of male, female and asexual merozoites, which are liberated after the disintegration of the host-cell; in the other, the sporozoite increases somewhat in size, becomes divided into four portions, which then range themselves along the walls of the cell; these subsequently divide themselves into a series of particles, which form a ring at the periphery of the cell; the host-cell then disintegrates, the resultant picture being that of a perfect sporocyst. This process comprises the true asexual phase in the life cycle of the spirochete and the two grades of development represent the schizogony.

In the sexually differentiated organism, the following process obtains: the male, oval or circular body enters a larger, mononuclear lymphocyte, loses its motility, increases in size and develops three pear-shaped bodies, which, after a series of transformations, become spirochætæ; the female element also leaves the connective tissue cell in the form of an oval or circular body; it differs from the male in the character of its staining, one pole showing a faintly stained chromatic network, the other possessing two spots or rods, which stain deeply. These female elements grow extracellularly, until they attain the size of a red blood cell. The author has observed the impregnation of the female gamete, by its junction with a spirochæte. Borax-methylene blue was the stain chiefly employed. A perusal of the entire work is necessary for an appreciation of the subject matter therein contained.

A CASE OF HIDRADENOMA ERUPTIVUM, DARIER AND JACQUET (SYRINGOCYSTADENOMA). TREATMENT WITH ROENTGEN RAYS. MENAHEM HODARA, p. 421.

A woman of 55 suffered with the disease first described in 1887 by Darier and Jacquet, under the name "Hidradénomes éruptifs," and later by Unna

and Philppson as syringocystadenoma. The disease in this patient affected the front and sides of the thorax and consisted of over one hundred pea to bean sized nodules, which were indurated, yellowish and reddish in color, somewhat waxy in appearance, and raised several millimetres above the niveau. The disease was of 17 years' duration. Kaposi and Biesiadecki called the disease lymphangioma tuberosum multiplex, while Jarisch gave it the name hæmangioendothelioma tuberosum multiplex. These authors were of the opinion that the nodules originated from the endothelium of the blood and lymph vessels; to-day, the consensus of opinion seems to be that the nodules originate from embryonic tissue, or from rudimentary sweat-ducts, hence the name syringocystadenoma. Histologically, the nodule was found to have its seat in the lower portion of the cutis and in the subcutis. Hodara describes the microscopical appearances in detail. The case was treated with X-rays and showed marked improvement.

**SUCCESSFUL TREATMENT OF HIDROCYSTOMA TUBEROSUM MULTIPLEX.** MAX JOSEPH AND CONRAD SIEBERT, p. 425.

The disease affected a woman of 32, and involved the skin of the neck, breast, back, abdomen, arms, thighs and hands. The eruption consisted of small, slightly raised, indurated, brown to dark-blue nodules and, to the palpating finger, gave the impression of being slight, thickened areas in the corium. The patient was treated by the Schultz fractional-dose method of measured X-radiation, with the result that, excepting a few areas, the diseased skin regained its normal condition.

**TWO CASES OF CORNUA CUTANEA IN SYSTEMATIZED NÆVI SEBACEI.** ANTON BERGMANN, p. 427.

The author describes two cases of nævi sebacei, in which was observed the formation of small, multiple, cutaneous horns, the histological appearance of which are described in detail. Bergmann discusses the relations of adenoma sebaceum and juvenile cutaneous horns to the condition which he describes; he believes that there is a close relation of cause and effect between pregnancy and the occurrence of hyperplasia in this type of sebaceous nævi.

(*Ibidem*, April 19, 1913, lvi, No. 16.)

**THE INFLUENCE OF REPEATED SALVARSAN AND NEOSALVARSAN INJECTIONS UPON THE BLOOD.** KARL HÉDEN, p. 446.

The author reviews the researches along these lines made by Dorn, MacKee, Edollinow, Pawlow, Bessais, Lévy-Bing, Sieskind, Schwaers and others. Intravenous infusions of both the old and the new remedies were employed, at intervals of four days. The largest number of injections in the same patient was eight. Blood smears were examined at the same hour each day. The first examination was performed six to eight hours after the infusion, while the remaining examinations took place at intervals of twenty-four hours. The patients remained in bed for a day after each treatment and received a meagre fluid diet, the digestion leucocytosis being eliminated. In but one case, a rise of temperature and a Herxheimer reaction were noted. In this part of the article, the results of the experiments in six cases are tabulated. (*To be continued.*)

**SCABIES COINCIDENT WITH EPIDERMOLYSIS BULLOSA HEREDITARIA.** A. WAGNER, p. 453.

This contribution is an interesting report, minutely detailed, of a boy of 17, a victim of epidermolysis bullosa, who was infected with scabies at the age

of 14, and in whom, on account of the denuded epidermis resulting from his bullous disease, the treatment of the scabies was woefully neglected. The result was a unique and puzzling cutaneous picture. Wagner succeeded in relieving the scabies, but his treatment had very little effect upon the epidermolysis bullosa hereditaria.

(*Ibidem*, April 26, 1913, lvi, No. 17.)

CONCERNING THE IDENTITY OF UNNA'S PARAKERATOSIS VARIEGATA AND PITYRIASIS LICHENOIDES. E. KLAUSNER, p. 469.

As this article tends toward a simplification of a somewhat involved subject, a rather complete abstract is submitted. The author's object is to show that parakeratosis variegata and pityriasis lichenoides are identical dermatoses, differing merely in clinical appearances of minor importance and dependent upon the duration of the eruption. He quotes a case cited by Csillag, who describes a case he had seen on two different occasions, each time showing two different eruptions; the first eruption was identical with Jadassohn's exanthema psoriasiforme lichenoides (Neisser-Juliusberg form of pityriasis lichenoides); the second, with the Unna-Santi-Pollitzer form of parakeratosis variegata. On the strength of this case, Csillag claims that the disease described by Unna is identical with the cases of pityriasis lichenoides, as described by Jadassohn and Neisser, as well as Juliusberg, Rona, Pinkus, Kreibich, Rille and others.

Klausner describes the clinical appearances of one of his patients with an eruption of typical parakeratosis variegata and submits the histological findings from one of the scaly macules. These findings were as follows: There were no marked changes in the cutis, as regards the structure of the collagenous and elastic tissues. The somewhat dilated vessels showed swelling of the perithelial cells, the vessels themselves being surrounded entirely by masses of round cells. The papillary bodies showed, here and there, a moderately condensed round-cell infiltration. The epithelium, in regions lacking the papillary infiltration, was practically normal in appearance, the stratum granulosum being well-defined; in some places, a hyperkeratotic scale was present. In areas showing papillary infiltrations, isolated round cells were noted, the cells of the rete Malphigii were evidently crowded apart and in some areas, distinct interpapillary oedema was apparent. Here and there, the invasion of round cells had caused destruction of the epithelium; in other places, the contour of the epithelial cones was preserved. The horny layer showed characteristic changes, in assuming a scutulum-like parakeratotic scale formation, which, in some spots, adhered to the underlying epithelium, in others was raised at the periphery and separated from the epithelium. The scale itself consisted of several parallel layers of nucleated horny cells, sown, here and there, with a few round cells. Infiltrates of tuberculous or tuberculoid structure, as described by Civatte, Milian and Pinard, were not found.

These histological findings agree with those of Hodara, who found, in addition to the papillary infiltration and the round-cell infiltration of the blood vessels, a change in the epidermis of the centre of the lesion; this consisted of a transformation of the epidermal cells into a homogeneous layer, containing a few stained nuclear remnants, but was otherwise unstained. The rest of the epidermis, consisting of one or two cell-layers, was studded with round-cell infiltrates, crowding up from the papillary bodies. The less marked changes described by Hodara, compared to the intensity of the pathological process in the author's case, are due to differences in the age of the efflorescences studied (i.e., efflorescences of short or long duration). The same explanation applies to the various histological findings in pityriasis lichenoides. In all of the findings, one thing

is common, however; that is, the meagre changes in the cutis propria, which, aside from the round-cell infiltration around the vessels, show no other infiltrates, nor any other changes in structure. The type of infiltration in the papillary bodies is also common to the various histological pictures; its intensity varies with the age of the efflorescence and is naturally less marked in the regressive stage of the eruption. All specimens show a moderate amount of oedema in the rete Malpighii and a sprinkling of round cells. Finally, the horny layer always shows changes in the shape of hyper- and parakeratosis. It is also noteworthy that in several preparations, Klausner found the scutulum-like, nucleated, horny-celled scales, described by Pinkus and Kreibich in pityriasis lichenoides and located over areas of relatively intensified, papillary round-cell infiltration and thinned, degenerated epithelium.

As to the therapy, the disease is admittedly incurable. In the case described by the author, however, there were marked remissions during the summer; so much so, that the disease temporarily disappeared after exposure to the warm sunlight. This peculiarity was noted also by Pinkus, in his cases of pityriasis lichenoides, while in Unna's cases, no remissions took place. Klausner believes that the sun's rays are markedly beneficial in these cases, as evidenced by the improvement in his patient.

In closing, Klausner sums up as follows: When first seen, his patient had a macular and nodular eruption, diagnosed as pityriasis lichenoides. After an interval of two years, during which the skin was free of disease, a fresh eruption appeared—clinically a parakeratosis variegata—which had resisted all treatment. The histology was that of both pityriasis lichenoides and parakeratosis variegata. On the strength of these observations, Klausner conforms with the opinion of Csillag, namely, that the two diseases are identical dermatoses, appearing in different forms. He approves of retaining the name parakeratosis variegata for the disease.

#### THE INFLUENCE OF REPEATED SALVARSAN AND NEOSALVAR-SAN INJECTIONS UPON THE BLOOD. KARL HÉDEN. p. 474. (Concluded.)

Héden's conclusions are as follows:

(1). After the first infusion, in most cases, there is a lowering of blood pressure. After the second and third, there is, in a few instances, also a lowering of the pressure, but to a lesser degree than after the first. Subsequent infusions cause no change in the pressure. The drop in the pressure usually persists from one to three days; in two cases there was lowered pressure throughout the entire treatment; in one case it remained unchanged and in two cases it was raised after the infusions. The changes in the blood pressure are due, in the author's opinion, not to the infusion itself, but to the salvarsan.

(2). The hæmoglobin-content of the blood sometimes shows a slight diminution (not over 10%) after the first infusion; subsequent infusions do not affect it; in some cases it shows no changes whatever, while in three cases, after a slight drop, there was a subsequent rise in the hæmoglobin-content.

(3). The changes in the red blood cells are very slight and seem to go hand in hand with the changes in the hæmoglobin.

(4). The combined white blood cells in 13 out of 15 cases, show more or less increase. This increase is most marked after the first infusion, very slight after subsequent ones. Leucopenia was observed in one of the cases.

(5). The percentage of neutrophile leucocytes is, in most cases, more or less increased after the first infusion. The same holds true, to a lesser degree, after the second and third infusions; but subsequent infusions cause no change in the relative white blood count.

These conclusions are based on careful and painstaking observations upon

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15 patients treated with salvarsan and neosalvarsan. The article contains elaborate tables, showing the details of the work done in each case.

### JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE.

(March, 1913, xiii, No. 3.)

Abstracted by FRED WISE, M.D.

#### HISTOLOGICAL EXAMINATION OF NORMAL AND PATHOLOGICAL TISSUE UNDER THE INFLUENCE OF RADIUM RAYS. K. DOIJI and G. MAKI, p. 121.

After reviewing the development of radium therapy in dermatology, with special reference to the work done by Wickham, Degrais and Dominci, the authors describe the results of their work in the histological examination of normal and pathological tissues which have been exposed to radium emanations; the experiments were performed in the University of Tokio since March, 1912, and involved the treatment of various skin diseases and malignant tumors. The tissues which were studied consisted of the normal skin, a sarcoma of the shoulder in a two-year-old girl, a perithelioma in the parotid region of a man of 38 and a sarcoma of the left lung.

The tissue changes in the skin, in cases which were exposed to the direct radium rays without a filter, consisted of a marked increase in pigmentation in the epidermis and in the upper layer of the cutis; further exposure led to more or less acute inflammatory reaction, finally resulting in ulceration. Of far greater interest are the tissue changes under the influence of ultra-penetrating radium rays, that is, filtered emanations. In sarcoma, these changes consist of a retrogression of the tumor cells (shrinking of the cell-bodies with vacuole formation, increase in the staining ability of the nuclei and their disintegration, disappearance of the karyokinetic figures, etc.); increase in the connective-tissue strands, displacing the tumor cells; obliteration of the lumina of the vessels, with their final disappearance, etc.

The article is illustrated with a series of excellent microphotographs. (*To be continued.*)

#### THE BY-EFFECTS FOLLOWING INTRAVENOUS INJECTIONS OF SALVARSAN. S. AKUTSU, T. OKOSHI, Y. NAKAGAWA, p. 156.

The article deals with 320 cases of syphilis, who received intravenous injections of salvarsan. The authors believe that the by-effects, especially the rise of temperature, are due partly to the disintegration of the spirochætae, setting free a toxine, and partly to the disposition of the patient; the other symptoms are dependent upon the fever itself and go hand in hand with it. They believe that these by-effects may be avoided by the administration of mercury, preceding the salvarsan infusions.

#### A CASE OF KERATOMA PALMARIS ET PLANTARIS HEREDITARIUM, TREATED WITH RADIUM AND ROENTGEN RAYS. K. DOIJI and M. MIKE, p. 164.

The keratotic changes of the palms and soles began shortly after birth in a five-year-old boy and increased rapidly in intensity. One palm was treated with radium, the other with X-rays, both showing remarkably good results, the hand

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treated with radium recovering its normal condition somewhat more rapidly than the other hand. The soles of the feet were treated with ointments and plasters, but showed very little improvement. The article is illustrated.

### DERMATOLOGISCHE ZEITSCHRIFT.

(January, 1913, xx, No. 1.)

Abstracted by PHILIP FRANK SHAEFFNER, M.D.

#### EPILEPTIFORM SEIZURES AFTER SALVARSAN. F. LUBE, p. 8.

The author's article reviews the known cases of epileptiform seizures following salvarsan, described in the literature, and reports a similar case of his own. The picture in these cases is as follows:

Following one or more salvarsan injections, epileptiform seizures occur which either remain isolated and proceed to a complete recovery, or produce exitus. The post-mortem examination reveals a marked œdema of the meninges and brain substance itself, with a more or less marked hyperemia and hæmorrhage.

Lube believes that non-luetic conditions, as the alcohol and tobacco habits furnish the basis for these epileptiform seizures and he points out the fact as partial proof, that 80 per cent. of these cases are in males.

The author advises, before giving salvarsan, to inquire as to previous epileptic or epileptiform seizures. In such cases and in alcoholics, one should proceed cautiously with small doses of the drug.

#### URTICARIA SOLITARIA. H. VÖRNER, p. 1.

Vörner discusses the external as well as the internal (antipyrin especially), ætiologic factors in the production of single wheals. The characteristics of these cases of so-called urticaria solitaria, are the isolated localization, their tendency to persist and after retrogression to recur in the same localities.

Vörner believes that a close relation exists between these internally produced isolated urticarias and herpes, both of the facial and genital varieties.

When urticaria solitaria occurs on the genitalia, considerable caution must be exercised in differentiating the condition from chancres.

#### OF WHAT SIGNIFICANCE HAS THE "MAL FRANZOS" IN ITALY IN THE FIRST HALF OF THE FIFTEENTH CENTURY, FOR THE VIEW THAT SYPHILIS WAS OF AMERICAN ORIGIN? P. RICHTER, p. 34.

Richter is opposed to the views of Sudhoff, that lues is of American origin. The syphilis epidemic of Naples, is, according to Richter, a mere legend.

The article is of pure historical interest and should be read in the original.

(*Ibidem*, February, 1913, xx, No. 2.)

#### THE BEGINNING OF THE OBSERVATION AND PROPHYLAXIS OF SYPHILIS IN FRANKFURT a. M. K. SUDHOFF, p. 95.

The article is of historical interest only.

## REVIEW OF DERMATOLOGY AND SYPHILIS 797

### NEURODERMITIS CHRONICA FACIEI. (LICHEN SIMPLEX CHRONICUM FACIEI). E. HOFFMANN, p. 117.

The author cites three of his own cases of neurodermitis chronica faciei, discussing the diagnosis and therapy. Hoffmann claims that many of these cases are wrongly diagnosed as a chronic or seborrhœal eczema.

The diagnosis is based on the following characteristics: (1) Itching marked and occurring in paroxysms. (2) Lustreless, dry, leathery condition of the skin, the exaggerated folds of which, grayish in color and glistening, present flat topped, elevated lichen papules. (3) Frequent presence of one or several typical lichen simplex chronicum patches in other localities, neck, genitalia, and joint flexures. (4) Extraordinarily rapid influence of anti-pruritic drugs, tamenol especially.

Hoffmann describes a second form of this condition, occurring mostly in badly nourished children and also in young adults, which involves not only the face but the entire skin and presents features of the disease described. This entity resembles the prurigo of Hebra very much, except that the predilection sites are reversed—namely, the joint flexures.

Therapeutically, the author recommends a 10 per cent. tamenol salve. In addition he advises daily applications (painting on) of lithantracis acetonia (Sack). Additional use of arsenic, cod-liver oil, sulphur baths, North Sea sojourns and X-ray, are of value.

### TWO CASES OF PHLEBITIS AND PERIPHLEBITIS SYPHILITICA FACIEI. W. FRIEDRICH, p. 125.

The first case occurred in a patient suffering from a secondary lues of five months' duration. Bilaterally, in the temporal regions were hard cord-like areas about two centimeters long and about the thickness of a lead pencil, well demarcated from the unaltered skin and the underlying tissues. The Wassermann reaction was negative but under a combined mercurial and salvarsan therapy, all symptoms disappeared quickly.

The second patient denied all venereal infection and had no clinical evidence of lues on his body. On the head were found cord-like and plate-shaped subcutaneous lesions which followed in part, the course of the vessels. Wassermann positive and healing under anti-specific treatment.

Pathologically, the tumor structure consisted of small celled mononuclear cells, packed closely together, surrounding the vessels and almost completely enclosing the veins.

The syphilitic nature of these conditions was proven in the first case by the history and the other manifestation of lues, and in the second by the Wassermann. Moreover, both cases healed quickly under anti-syphilitic treatment, leaving no doubt as to their ætiology.

Several excellent plates accompany the article.

### THE SYMPTOMATOLOGY AND ETIOLOGY OF A RARE FORM OF ULCERATION OCCURRING ON THE FEMALE GENITALIA. G. SCHERBER, p. 140.

Scherber presents a rare case of what he terms an aphthous ulceration occurring on the large and small vaginal lips, of a four-year-old girl. The differential diagnosis of these ulcerations seen in the female adult are discussed.

The aphthous ulcers are sharply demarcated, punched out, pea to coin (heller) size, presenting for the most part a superficial circular loss of tissue.

Herpes of the genitals is differentiated in that the aphthous ulcerations are deeper, the walls are steep and the ulcerations have an indistinct arrangement.

as contrasted with the grouped arrangement of the herpetic ulcerations. Vulvitis aphthosa usually produces fever and has a definite bacteriological finding. These aphthous ulcerations are differentiated from syphilitic processes in that they develop rapidly, are of an acutely inflammatory nature and are painful. Chancroids and gonorrhœal ulcerations are easy to differentiate from these ulcerations by their characteristics and bacteriological findings. Gangrenous ulcerations present little difficulty in making a differential diagnosis because of the marked loss of tissue substance, etc.

The author in concluding, draws attention to the necessity of including in a differential diagnosis, the ulcerations occurring in typhoid, tuberculosis, vaccinia and diabetes.

Bacteriologically, Scherber found in this case two distinct organisms. One, a staphylococcus, and in addition in more or less pure culture a Gram positive, thick, long bacillus which he was unable to grow aerobically. Scherber believes that this bacillus is the etiological factor in the production of the ulcerations described.

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## NEWS ITEMS.

Certain changes have recently occurred in two of the New York medical colleges that will prove of interest to our readers.

As was announced in *THE JOURNAL* last Spring, Dr. George T. Jackson resigned the Chair of Dermatology at the College of Physicians and Surgeons of Columbia University.

Dr. John A. Fordyce, who, for many years has been Professor of Dermatology and Syphilology at the New York University and Bellevue Hospital Medical College, has resigned from this position and has accepted the Chair of Dermatology and Syphilology at Columbia University.

His Clinical Assistants are as follows: George M. MacKee, M.D., Chief of Clinic and Instructor; Charles Wood McMurtry, M.D., Instructor, Pathologist and Attending Dermatologist; Fred Wise, M.D., Attending Dermatologist; John Remer, M.D., Assistant Attending Dermatologist and Radiologist; John Aldrich, M.D., E. J. Snyder, M.D., E. C. Jagle, M.D., and F. Steinke, M.D., Clinical Assistants.

Dr. William B. Trimble, M.D., has been appointed Professor of Dermatology and Syphilology at the New York University and Bellevue Hospital Medical College. His Clinical Assistants are as follows: J. J. Rothwell, M.D., Chief of Clinic and Instructor; C. J. Hailperin, M.D., and Geo. A. Cherry, M.D., Attending Dermatologists; J. F. Fraser, M.D., J. N. Drury, M.D., B. Berger, M.D., C. M. Williams, M.D., L. L. Welzmler, M.D., and W. H. Boughman, M.D., Assistant Attending Dermatologists.



# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

NOVEMBER, 1913

NO. 11

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## EDITORIAL.

### WHAT SHALL WE DO WITH OUR LEPERS?

**T**HE recurring newspaper accounts of the inhuman, popular hounding of lepers leads the charitable reader to pause and consider earnestly what can be done to alleviate these 20th century American persecutions.

The predominating note in modern medical science is prevention and this theory is especially applicable to a disease like leprosy for which there is at present no specific cure, a disease which condemns its poor victim to a lingering death accompanied by the horrors of gradual disfiguration and mutilation.

Granting, therefore, that the best method of combating this dread disease is by isolation, how can this end be best accomplished?

The Norwegian method is to consign lepers to the care of their families and as long as this quarantine is conscientiously carried out the patient is allowed to live at peace under the family roof. Or, if this procedure is impossible, the victim may enter one of the national leproseries.

In America, the different States adopt different laws. In New York, for example, as in Paris, the leper wanders about unrestrained (such liberty of will is surely reprehensible), or seeks an asylum in the municipal almshouse or public hospital. But in other States, where isolation is rigidly enforced and where the victim is not deportable under the laws of the United States (for he is usually a foreigner who has slipped by the usually vigilant eyes of the national health inspector), several methods are adopted. In most States the unfortunate town which discovers the leper must assume the burden of his care; while in others, like Massachusetts or Louisiana, the patient becomes a ward of the State and is taken to its leper hos-

pital. Thus, in the United States, locality plays a vastly different rôle in the ultimate fate of the discovered leper.

What, then is the best method to pursue considered from a humanitarian, medical and economical point of view? What of the Norwegian primary custom of domestic isolation? Surely from an economic point of view this method is ideal, but to even the casual observer it would seem to fail distinctly in its very purpose, for the loophole of possible familial infection is altogether too great to be disregarded.

What of the leper, usually the sole victim of the disease, in a country town? He is generally to be found in an outlying, remote, tumble-down shanty, served usually by some wreck of society who feeds or starves him, shunned by the rest of the community who regard him as the very evil one. The vicinity of this hovel is vacated by its former inhabitants and all neighboring properties depreciate utterly in value. Thus, the leper and his haven become a double tax on the unlucky town. He is attended by some local physician who is generally, and naturally, deficient in any special knowledge of the disease and without special equipment to combat the symptoms as they arise. The existence of this poor creature, under such adverse circumstances, becomes more and more deplorable and sooner or later a mob of excited villagers may drive him forth from their midst.

What of the method of care in a State institution? To find a modern community which will tolerate such a hospital in its immediate vicinity is almost an impossibility. But granted that such a hospital has found a footing and become an established fact, what of its success? Lepers in all States but Louisiana, California and Minnesota, are fortunately comparatively few in number. This means that the State must support a relatively expensive establishment; it means that one or two or three representatives of a single nation or a single religion must be herded together in an uncongenial atmosphere; it means often that several distinct types of food must be prepared for these conflicting elements; it means that for this small community the best medical care and the best medical authorities and the best research workers cannot be afforded; in short, it all means an unsuccessful institution from all points of view.

If, therefore, all these practiced methods are failures, what is left? To the writer and to many others interested in this pressing vital question there appears an alternative, and that is the national control of the disease and its unfortunate victims. To the writer

it would seem as though all the disadvantages of the existing unsatisfactory conditions would be abolished by such an act, while at the same time humanity, economy, medical care and progress could be splendidly served by the men and means which our Government could pour into such an institution, where large numbers of lepers could be assembled together and where all that was desirable from the patient's and from the physician's viewpoint could be provided by one powerful and munificent authority.

It is certainly true that popular prejudice would utterly forbid the establishment of such a hospital on the mainland of any State, but the nation could easily surmount this obstacle, as Massachusetts has already done, by acquiring title to a neighboring island off the coast of the Atlantic, Gulf, or the Pacific seaboards and thereon build and equip an ideal modern leper asylum and hospital and place at its head public service medical men such as have wrought so successfully in Cuba, Porto Rico, the Philippines and the Panama Zone in recent years.

This is not a new idea, of course, but the time has come when such public scandals as have occurred within the last few years must cease, or else the United States must hang its head in shame and confess that it is not a charitable, progressive and scientific nation.

CHARLES J. WHITE.

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#### CLINICAL REPORTS.

The receipt of Dr. Ormsby's article on Synovial Lesions of the Skin, published in this issue of *THE JOURNAL*, afforded us considerable satisfaction. It indicates, apparently, that the Clinical Reports are being read. This department should be of special interest to those dermatologists who happen to reside at a considerable distance from dermatological centres. We especially invite the publication of Cases for Diagnosis, particularly when they are well "worked up," and are accompanied by good illustrations and a histopathological report. Also, we especially invite our readers to answer such articles, placing the reply under the heading of Correspondence, Clinical Reports, or Original Contributions.—ED.

## RESEARCH STUDIES IN PSORIASIS.\*

*(Continued from page 724).*

## SECOND PAPER.

## PROTEIN METABOLISM IN PSORIASIS.

By

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\* Read in abstract before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

## EARLIER RESEARCHES IN THE METABOLISM OF PSORIATICS.

**T**HEORIES which hold disturbances of metabolism responsible for certain diseases of the skin can be traced back to the early history of dermatology. Many interesting contributions have been made by French authors, presenting theories which connect various cutaneous affections with disturbances in uric acid metabolism. Some of these views are held by certain clinicians at the present time. And yet these theories have no experimental foundation and are not in harmony with our modern knowledge of uric acid metabolism. Of course there cannot be excluded the possibility that there may exist derangements in the uric acid metabolism of patients afflicted with diseases of the skin and, ultimately, perhaps some truth may be found in the teachings of the early French school. Thus far we possess no facts indicating the existence of such derangements and the speculative theories about "arthritis" or "uric acid diatheses," under discussion for nearly half a century, still await experimental demonstration.

In the last two decades there have appeared a great number of contributions on the relationship between disturbed metabolism and skin diseases. Almost all of them are based on clinical observations, with an occasional analysis of the patient's urine. Various internal diseases were then assigned as the cause of the skin affection under investigation. If an examination of the urine showed an accidental increase of one of the urinary constituents, the cause of the skin disease was ascribed to that particular condition. For instance, a temporary increase in the daily output of urea, or a temporary decrease, was associated with the causation of the skin eruptions, whereas the real reason for these changes in the urea output was doubtless the diet: in one case it was richer in nitrogen, in the other case poorer.

In many instances auto-intoxication of the body was regarded as giving rise to diseases of the skin and was expressed in the abnormal quantitative output of different organic constituents of the urine. In general, those works were largely of a clinical character and were practically worthless as far as throwing any real light on the metabolism of skin diseases was concerned.

Recently there have appeared several communications dealing with the metabolism of psoriatics. One of these deals with the nitrogen and sulphur metabolism,<sup>1</sup> and seems to have been carried out in a very painstaking and accurate manner. The length of the ex-

periment, however, was too short to permit of any definite conclusions. The entire experiment lasted 14 days and was divided into 4 periods, 3 of four days each and 1 of two days. During these periods different diets were given containing varying amounts of nitrogen. These periods, in our estimation, are too brief to permit of any definite deductions with regard to the nature of the protein metabolism in psoriatics.

In inaugurating a research on the metabolism of psoriatics, it seemed to us essential to study the protein metabolism first. We did this for several reasons. Firstly, because the different theories that were evolved in the early literature of psoriasis centered mainly around the question of disturbed protein catabolism. Secondly, because the study of protein metabolism lends itself to very accurate investigations, because of the ease with which the nitrogen balances can be studied. Thirdly, because protein metabolism in the normal is most thoroughly understood and gives us a fair basis for comparison.

Before presenting the results of our experiments, however, we have considered it advisable to briefly review the general principles that govern the general and protein metabolism of normal individuals.

#### THE PRINCIPLES OF GENERAL METABOLISM.

By metabolism, we understand all the processes, chemical, physical and biological, that are involved in the utilization, absorption and assimilation of food stuffs; the transformations that these undergo before, during and after their assimilation, and the elaboration and excretion of all their end products (waste products). All phenomena of living cells, whether motor, reproductive or sensory, are very closely associated with processes of metabolism.

The chemical processes of metabolism are divided into two phases:

1. Anabolism: the upbuilding of substances or tissues.
2. Catabolism: the breaking down of complex substances into simpler ones.

All the foodstuffs of the body, with the exception of the inorganic salts, whose function it is to maintain proper osmotic conditions in the cells and fluids of the body, are such as to be able to undergo processes of oxidation (combustion), which processes are exothermic, *i.e.*, are associated with the formation of heat. The principal foodstuffs, all of which are capable of yielding energy, are divided into three classes:

1. Carbohydrates.
2. Fats.
3. Proteins.

The carbohydrates and fats have as their constituents carbon, hydrogen and oxygen, chemically united in definite and peculiar forms. In normal individuals these two foodstuffs undergo complete oxidation. All the carbon becomes oxidized to carbon dioxide and all the hydrogen becomes oxidized to water. The carbon dioxide thus formed is eliminated mainly through the respiratory tract and the water formed is eliminated through the kidneys, by perspiration, or in the moisture of the expired air.

The protein molecule is composed of carbon, hydrogen, oxygen, nitrogen and

sulphur. The proteins that form the nuclear elements of cells contain also phosphorus. It is at once evident that while the carbon and hydrogen that are excreted as waste or end products in animal metabolism may find their origin in carbohydrate, fat or protein, the nitrogen, and to a certain extent also the sulphur and phosphorus, have only one source of origin—the proteins. After the protein is catabolized in the body, the nitrogen is eliminated in the form of urea, ammonia, uric acid, purin and other bodies. Most of the nitrogenous waste products are excreted through the kidneys and a small amount passes out with the faeces and perspiration. In the faeces we may find some unresorbed proteins which never played a rôle in metabolism. We shall have occasion later to discuss this subject in greater detail.

Since the average protein contains about 16% nitrogen, we are enabled, by determining the nitrogen in the excreta and multiplying its value by 6.25, to find the amount of protein that was catabolized in the animal organism. Voit, who has played the most important rôle in the framing of our present conceptions of protein metabolism, was the first to recognize the relationship between urinary nitrogen and protein metabolism.

The proteins are very complicated condensation products of about 16 different amino-acids which, in the process of digestion, suffer hydrolysis, which causes a disruption of the molecule into its individual component amino-acids.\*

Each amino-acid has its own life history in intermediary metabolism. Here we can only refer to some of the works which deal with this subject in greater detail.<sup>2</sup> Later, we shall return to the subject of nitrogenous, sulphur and phosphorus end products of protein metabolism.

**HEAT FORMATION.** Just as in the combustion of carbon and hydrogen outside the animal body, the process is associated with the formation of heat, so in the animal body, the combustion of these substances is accompanied by the evolution of heat, which serves to maintain the body temperature. The amount of heat produced depends entirely upon the amount of material burnt and the total metabolism of the cells of the body is determined by its requirements for kinetic energy and by the amount of heat given off to the surrounding atmosphere.

The heat produced by an individual is measured in terms of calories. One calorie is the equivalent of the amount of heat required to raise one liter of water from 0° to 1° C.

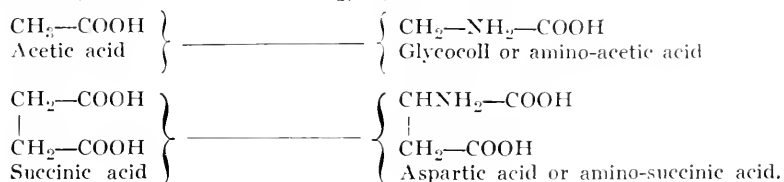
The following amounts of heat are generated in the animal body in the combustion of one gram of the different foodstuffs:

Starch .....	4.10	calories
Cane sugar .....	3.96	"
Glucose .....	3.75	"
Animal fat .....	9.3	"
Protein .....	4.1	"

The total amount of heat produced by a fasting normal individual, in a state of complete rest, at a temperature corresponding to that of his body (to prevent loss of heat by radiation and conduction) is called the "*basal heat production*."

---

\* Amino-acids are fatty acids in which one hydrogen atom of the alkyl radical is replaced by an amino radical ( $\text{NH}_2$ ) *e.g.*,



This represents the lowest degree of metabolism compatible with life. In a human individual this amounts to about 25 calories per kg. of body weight per 24 hours. The normal individual cannot however, get along on this low basis, for the normal individual constantly finds himself in an atmosphere where the temperature is much lower than that of his body. This results in heat being constantly lost by the body by radiation and conduction to the surrounding space. To maintain the body temperature, therefore, a greater amount of heat has to be produced than is necessary for the "basal maintenance of life." From the aforesaid, it becomes evident that to a very large extent, the total heat production must have some relationship to the total area of body surface. Rubner<sup>3</sup> was the first to call attention to this. The details of this were worked out by E. Voit<sup>4</sup> in a very beautiful way. The results of his experiments are here tabulated:

Species (5)	Weight in kg.	Calories.	
		Per kg.	Per square meter of body surface.
Pig .....	128.0	19.1	1078
Man .....	64.3	32.1	1042
Dog .....	15.2	51.5	1039
Mouse .....	0.018	212.0	1188

This table shows to what a remarkable extent the amount of heat produced per square meter of body surface is constant for different animals and different sizes. When, however, we come to consider the amount of heat produced per kg. of body weight, we learn something that is of fundamental importance, namely, that with the diminution of the weight of the individual, there is a constant increase in the heat production per kg. of body weight. This must always be borne in mind in establishing dietaries. The small man must always be allowed a larger amount of food in proportion to his weight than a large man.

This is brought out very clearly in the researches of Camerer<sup>5</sup>:

	Calories per kg. per day.	Calories per sq. meter of surface per day.
Child, 1 month.....	91	1221
Dwarf (6 kg. rest).....	82	1231
Child, 2 years.....	81	1231
Child, 10 years.....	60	1389
Child, 14 years.....	52	1452
Adult (average work).....	42	1890

PRINCIPLES OF PROTEIN METABOLISM.

If we feed an animal with a sufficient amount of carbohydrates, fats and protein and compare the nitrogen in the food with the amount of nitrogen in the excreta (urine, feces and perspiration) and find that the two balance, we consider the animal in a state of *nitrogenous equilibrium*, i.e., the animal is receiving as much nitrogen in the protein of its food as it is metabolizing and eliminating in the excreta. If the animal is found to eliminate less nitrogen than is ingested, it is evident that the animal is storing nitrogenous material. We consider the animal to be in a state of positive nitrogen balance. This state usually occurs in the growing child, in patients convalescent from a wasting disease and in the athlete in training. On the other hand, if the nitrogen in the excreta is found to be greater than in the ingested food, it is clear that the animal is losing its own body protein. We consider that animal to be in a state of negative nitrogen balance. This state usually occurs in starvation, undernutrition, in



persons suffering from wasting diseases like carcinoma, tuberculosis, fever and other forms of toxæmia.

If the quantity of protein intake, in an individual who maintains nitrogenous equilibrium, is steadily increased, the nitrogen elimination of that individual will increase correspondingly, until an equilibrium is struck on a higher level. This adjustment does not take place at once, but in the course of two, three or sometimes four days. During this period of adjustment, a considerable amount of nitrogen is retained in the body. On the other hand, if the nitrogen intake is diminished, nitrogen equilibrium becomes established on a lower level with the opposite effect, *i.e.*, during the first few days more nitrogen is eliminated than is ingested (see page 846).

Although it is possible to keep an individual in nitrogenous equilibrium on any level up to the point of the maximum digestive and resorptive capacities of that individual for protein, it is found experimentally that there is a low limit of protein below which it is impossible to maintain nitrogenous equilibrium and below which we cannot reduce the protein metabolism. Any attempt to keep an individual on a protein diet below that level will result in a negative nitrogen balance, *i.e.*, a loss of protein from the tissues. This low protein level was recognized by Rubner<sup>7</sup> as the "wear and tear" quota, which represents the amount of protein that goes to replace the nitrogenous material that is actually broken down during the activities of the cells in their life processes.

In Voit's early researches<sup>8</sup> he showed that nitrogenous equilibrium may be maintained on a diet consisting of protein alone. In this case very large quantities of protein are catabolized, first, to cover the "wear and tear" quota and, second, to cover the dynamic requirements of the body. If non-protein foodstuffs, as carbohydrates and fats, were added to the diet, nitrogenous equilibrium was found to be maintained on a much lower level. The carbohydrates and fats thus exert a sparing influence on the protein metabolism. The sparing influence of carbohydrates on the protein metabolism in man was first demonstrated by Lusk while working in Voit's laboratory at Munich<sup>9</sup>.

This subject was further studied by Rubner,<sup>10</sup> Landergren,<sup>11</sup> Cathcart<sup>12</sup> and others, who have shown that carbohydrates may even reduce the starvation requirements of protein.

All these experiments show very plainly that within very wide limits the protein metabolism may be influenced by the amounts of carbohydrates and proteins in the food. By various arrangements of the quantities of these foodstuffs, it was shown to be possible to maintain nitrogenous equilibrium at any arbitrary level above the wear and tear quota. The question then naturally presented itself: What shall be considered a physiological amount of protein in one's diet? This question has absorbed the minds of a great many investigators and a tremendous amount of material, experimental and statistical, has been collected. Although this discussion stimulated the performance of a great many experiments that revealed to us the laws that govern protein metabolism in health and disease, the original question is as open now as it was forty years ago when it was first raised.

On the basis of a great many experiments, Voit suggested that for an adult doing a moderate amount of work, a diet containing 118 grams of protein (which contains 17.28 grams of nitrogen) with a total food supply of 3055 calories was required. This served as a starting point of one of the most heated debates recorded in the annals of physiological literature.

It was soon recognized that the great physiological importance of protein in the diet was due to its ability to "repair body tissues," and the discussion centered around the question: What constitutes a "repair quota" or "wear and tear" quota?

Voit's protein quota of 118 grams of protein = 17.28 grams of nitrogen for an individual of 75 kg. of body weight, allows approximately 1.5 grams of protein

or 0.23 gram of nitrogen per kg. of body weight. A great many physiologists considered this excessive, especially since it was demonstrated that other races maintain nitrogenous equilibrium on much lower levels. For example, it was shown that the Italian laborer does not consume more than about 30 grams of protein = 4.8 grams of nitrogen and that the Japanese coolies get along on a diet of rice containing not more than 25 grams of protein = 4.0 grams of nitrogen.<sup>13</sup> These figures, however, must not be taken by themselves, but in relationship to the average body weight of the individual experimented upon. Thus the average Japanese, who lives on a 4 gram nitrogen regime weighs about one-half as much as the average husky German who lives on the Voit protein standard. During the past few years, however, very satisfactory evidence has been obtained in this country and abroad, which shows that men who come from races which are habitually large protein consumers can maintain for long periods of time, their well-being, nitrogenous equilibrium and body weight, on just one-half of the Voit regime.<sup>14</sup>

In the discussion of this problem, a very interesting series of observations was brought to light and one that is very closely related to the main problem of our present paper. These observations deal with the influence of a high protein diet on tissue formation and growth. Mention was previously made (see page 807) of the fact that in changing the diet from one level to another, the body required several days to accommodate itself to the new diet, before nitrogenous equilibrium was again established. In changing the diet from a low to a high protein level, it takes two or three days before the eliminated nitrogenous waste will equal the nitrogenous intake. During this period of adjustment, nitrogenous material is retained in the system. The great important question is: what becomes of it? Is it retained only temporarily or does it become part of the body cells? The scope of this question was further broadened when it was shown<sup>15</sup> that the protein metabolism can be reduced to a very low level by feeding very large quantities of carbohydrates. It was found that if the protein intake remained the same and the carbohydrate supply was suddenly raised, there was a marked diminution in the nitrogen output in the urine. The result was a considerable retention of nitrogen in the body.<sup>16</sup> The question of the formation of "tissue" by the stored nitrogen now became vital.

Retention of nitrogen in the growing individual and the convalescent, has long been recognized. We explain it by the generative and regenerative tendencies of living cells. In the case of the former, it was associated with *growth*; in the case of the latter, with the *restorative processes* of the cells. But it was found very difficult to explain the significance of the retention of nitrogen in a healthy, well-nourished adult. The problem is one of great practical importance and briefly stated, is this: Do we deal with a retention of nitrogen that is deposited in the cells of the body in an unorganized form of protein, which although it is stored in the cells, does not become a vital functioning part of the cells and does not add to the cells' efficiency any more than does a similar amount of fat or glycogen, or does this retention of nitrogen mean an increase in the living protoplasm of the cells, associated with increased protoplasmic physiological efficiency? The economic importance of this question cannot fail to be appreciated.

Since the results of our investigation are very intimately connected with this problem, we shall postpone the further discussion of it until after the presentation of our experimental studies.

#### THE CARE OF THE PATIENTS.

All the experiments were performed under the strictest rulings that are necessary for exact metabolism studies.

The patients were kept in private rooms at the Polyclinic Hospital, which were located on the same floor as the Laboratory. The

patients were under the nursing care of Miss Julia Dorsey, whose valuable coöperation we take pleasure in acknowledging. In each room there was a set of utensils for the quantitative collection of the urine and fæces. The urine was preserved with toluol and kept in glass-stoppered bottles. Each daily period was closed at the same hour of the morning. The fæces were transferred to the laboratory as soon as passed. The weekly periods were marked off in the fæces by the administration of charcoal.

Most of the patients spent the entire day in their respective rooms; some were permitted to go out once a day for a 30 to 45 minute walk. In each case the patient had to report to the nurse.

Most of the patients were of an intelligent class, who understood in a general way the purpose of our studies and were perfectly willing to coöperate with us.

Special attention was paid to the quantitative collection of urine, especially in the female patients. They were instructed to void the urine before defæcation, in order to avoid any possibility of loss while straining.

#### FOOD.

One portion of the laboratory was converted into a kitchen. All of the food was prepared by the nurse and was weighed and recorded by one of the investigators before it was taken to the patients' rooms. The patients were required to eat all that was given to them. If, however, any food was not eaten by the patient, it was brought back to the laboratory and weighed and subtracted from the recorded amount. (This, however, happened in a few instances only.)

Samples were taken for analysis of all the foods that were prepared. They were analyzed for their nitrogen content and, in many cases, the sulphur and phosphorus were also determined. Of the foods prepared outside the laboratory, as bread, large enough loaves were obtained to last for several days or a week. An analysis was made of each individual loaf. Butter was analyzed at the beginning of the investigation and was found to contain such a small quantity of nitrogen and the individual samples varied to such a small extent, that it was not deemed advisable to continue analyzing it and we accepted the average figure obtained, namely, 0.12%, as the amount of nitrogen in butter.

Foods eaten raw, as lettuce, pears, oranges, etc., were not analyzed in our laboratory. The figures in "Bulletin 28 of the U. S.

Department of Agriculture,"<sup>17</sup> are very accurate and we used them as the basis of our calculations.

#### METHODS OF ANALYSES.

The total nitrogen in the urine and food was determined by Kjeldahl.

Urea by Benedict's latest method.

Ammonia by Folin's method.

Uric acid by Folin's method.

Creatinin by Folin's method.

In these analyses we were assisted by E. M. Frankel and H. Dubin.

In the charts are recorded the daily analyses of the urine, the nitrogen content of the faeces, the nitrogen in the food, the daily nitrogen balance and the patient's weight.\* Under "diet," we have given in detail the composition and character of the food of the first day of each period. The variation from day to day within a given period was very slight; the main difference was in the vegetables.

For the sake of convenience, we shall discuss the case of patient No. 3 first.

#### PATIENT No. 3. B. L.

**FAMILY HISTORY.** Father died at age of 42; cause of death unknown. Mother living, aged 39 years. No psoriasis in parents nor in two sisters and three brothers.

**PERSONAL HISTORY.** Patient aged 18 years, was born in Russia. Had measles and diphtheria as a child; she has always been thin and sickly.

At the age of 13, the patient first developed psoriasis. In 1909, while in Russia, she was treated in a hospital for her psoriasis, remaining in the institution 4 weeks; in 1911, she was again under treatment in the same hospital for 8 weeks.

**PRESENT CONDITION.** The patient was admitted to the Polyclinic Hospital on Nov. 25, 1912, with an exceedingly severe and widespread eruption. She could scarcely walk because of the painful tension of the skin; the use of the arms was also considerably impaired.

On admission, the patient exhibited a most extensive eruption, which was well nigh universal, save for the partial involvement of the face and extremities and partial exemption of the upper part of the back and chest. The eruption upon the trunk was of a rather superficial character; the scaling was most profuse, leading, during the first few days of her hospital sojourn, to the exfoliation of a quart Mason jarfull of lameller scales per day. The skin was dry, tense and here and there fissured, necessitating the use of vaseline as a lubricant to relieve distress and pain. Upon the arms and legs there were large, intensely red plaques, which were markedly thickened and elevated above the level of the skin. On admission,

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\* The patients were weighed every day at 4 P.M. The clothing was weighed and its weight subtracted. In the charts, the average weights for the week are given.

PLATE XXVIII.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 2.

Research patient No. 3. Miss B. L.

Photograph taken March 10, 1913. Trunk free of eruption. Patient has been under dietary treatment; no internal treatment and no local treatment save the use of vaseline.

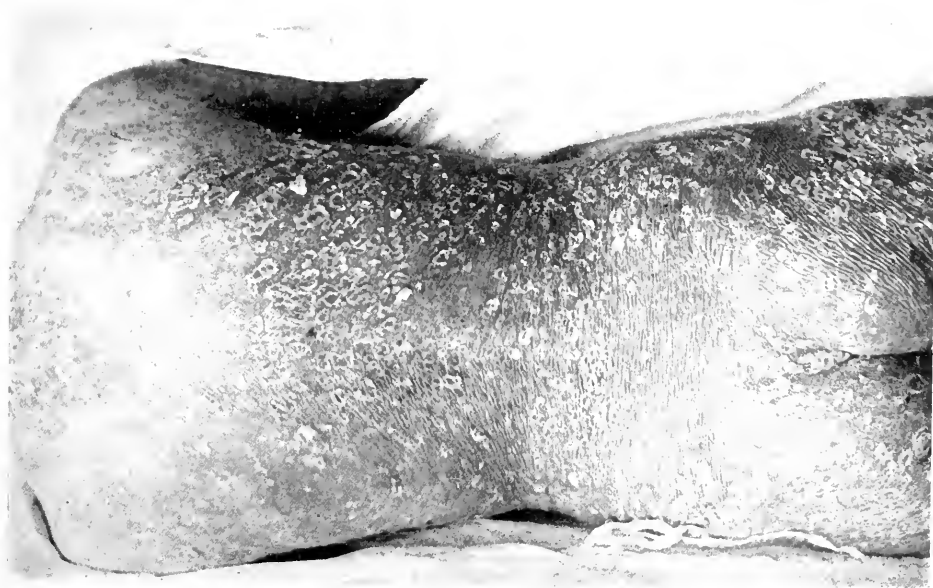


Fig. 1.

Research patient No. 3. Miss B. L.

Photograph taken Dec. 12, 1912.



the eruption on the chest was limited by a sharp line of demarcation whose upper border was below the nipples anteriorly and extended across the shoulder blades posteriorly. The chest, abdomen and back were the seats of a confluent area of psoriasis, somewhat suggesting in appearance a dermatitis exfoliativa. The scalp was diffusely involved and covered with scales.

This patient remained in the hospital for a period of five months.

## CLINICAL CONDITION IN RELATION TO THE DIETARY.

Admitted Nov. 25, 1913.

Notes taken from record charts.

Nov. 27th	<i>High Nitrogen Diet</i>	Dec. 2nd: "New papules have appeared on the upper part of the legs and arms."
to	18.63 gm. per day.	Dec. 6th: "New papules upon the neck and upon the clear areas on the back."
Dec. 10th		Dec. 8th: "The eruption is spreading rapidly on the face."
Dec. 18th	<i>Low Nitrogen Diet</i>	Dec. 25th: "The skin is much smoother and paler."
to	6.89 gm. per day.	Jan. 7th: "The skin is much paler in color and continuing to improve. The scales are finer and less bulky."
Jan. 8th		
Jan. 9th	<i>High Nitrogen Diet</i>	Jan. 23rd: "The feet are very red and the skin is much more inflamed on the lower part of the body."
to	20.54 gm. per day.	
Jan. 21st		
Jan. 22nd	<i>Low Nitrogen Diet</i>	Jan. 28th: "The skin of the chest and upper portions of the arms and neck is paler."
to	6 to 7 gm. per day.	Feb. 1st: "Pronounced improvement of the skin over buttocks, thighs and legs."
March 3rd		Feb. 5th: "Entire body much paler and shows considerable improvement."
		Feb. 14th: "Skin quite pale over greater part of body."
		Feb. 18th: "Skin is smooth and white over upper part of body and neck."
		Feb. 24th: "There have been no scales to collect for 12 days."
		March 3rd: "Skin over greater part of body free of eruption."

During the period of Nov. 27 to Dec. 3, 1912 (Period I), the patient was placed on a diet consisting of an average of 18.63 grams of nitrogen per day—0.45 grams of nitrogen per kg. of body weight. The total amount of nitrogen received with the food for the entire weekly period was 130.4 grams. During this period, the patient eliminated in the urine and feces 86.29 grams, which means that 44.11 grams of nitrogen were retained in the body during the weekly period, or 6.30 grams per day.

During the second week (Period 2), the patient was kept on approximately the same diet, with the result that 136.03 grams of nitrogen were ingested. The amount of nitrogen eliminated in the

urine and faeces during the corresponding period was 97.39 grams, which means that 38.64 grams of nitrogen were retained in the body—5.52 grams per day. The patient's gain in weight above the previous week was 0.52 kg.

It is at once evident that this patient presents a peculiar irregularity in regard to her nitrogen metabolism. A person of her weight on this diet should have established nitrogenous equilibrium long before the end of the two periods. It may be argued that 45 to 49 calories per kg. of body weight, which the patient received in her diet, was too high a caloric supply and is, perhaps, responsible for the nitrogen retention. But this objection is not valid, because the calories are calculated upon the basis of food that is *ingested*; we do not take into consideration the amount that passes through the intestinal tract and comes out in the faeces, without having ever been resorbed and without having yielded any energy to the body. Rubner<sup>18</sup> calculates the average faeces of a well-fed individual to contain 8 to 10% of the gross caloric supply which, in establishing the actual caloric value of a diet, has to be subtracted. However, to eliminate all possibility of error, the patient was placed (in Period 3) on a diet consisting of a gross caloric value of 37.9 calories per kg. per day and an amount of nitrogen which corresponds to a little less than the amount eliminated in the urine and faeces during the first two periods. The establishment of nitrogenous equilibrium was certainly expected during this period. To our great surprise this did not occur. The nitrogen in the urine, instead of remaining at its former level, dropped down to an average of 6.32 grams per day. The total amount of nitrogen received during the course of this period was 83.51 grams. The amount of nitrogen eliminated in the urine and faeces was 49.29 grams. This means there was a retention of 34.22 grams of nitrogen for the week, or 4.89 grams per day. The average weight of the patient for this period was 41.80 kg.—a gain of 0.43 kg.

During the first two periods, marked nitrogen balances were observed in favor of the patient. The problem to be solved was: Is it a *bona fide* retention of nitrogenous material or is it only an apparent retention, *i.e.*, is the nitrogen being given off in large quantities through a source other than the urine and faeces? The only source of nitrogen loss that this patient presented was the skin. The patient's skin had been scaling since the beginning of the investigation. In this period we made a quantitative collection of the scales. During the course of the week, 49 grams of scales were collected. The scales contained 11.22% of nitrogen, making a total



of 5.50 grams of nitrogen for the week. As is seen, this is a small fraction of the retained nitrogen and fails completely to account for the positive nitrogen balance.

In Period 4, the patient was kept on the same caloric supply as in Period 3, but the nitrogen intake was again reduced to an amount less than was eliminated in the urine and faeces during the 3rd period, namely, an average of 6.89 grams per day. As can be seen from the table (see page 824), the patient failed to establish equilibrium even on this diet. Contrary to all expectations, the patient retained 1.87, 2.19, 2.16 and 1.69 grams during the first four days, respectively. These retentions are the more remarkable, since normally every change from a high to a low protein diet is associated with a negative nitrogen balance (see page 807). The question then presented itself: in what form is the nitrogen retained? Is it retained in the form of the entire protein molecule, or in the form of end products, as amino-acids or urea? It also became of great importance to test the kidneys' eliminative capacities, since it has been shown that in conditions of nephritis, the patient's eliminative capacities for nitrogenous end products may be very considerably interfered with,<sup>19</sup> resulting in nitrogenous retention. We therefore considered it advisable to make a test, even though our patient showed no clinical evidence of kidney lesion. On December 22nd, therefore, 20.0 grams of urea, containing 9.33 grams of nitrogen, were added to the diet. Of this, 8.16 grams were recovered in the urine of December 22nd and 23rd. The total nitrogen elimination in the urine on December 22nd rose to 10.97 grams. This experiment shows that the patient did not suffer from any kidney disturbance which might account for the nitrogenous retention and shows, further, that the patient does not retain the nitrogen in the form of urea, because the extra urea that was added to the diet was promptly eliminated. The total amount of nitrogen the patient received in her food during this period was, including the urea, 57.59 grams. She eliminated in the urine and faeces 42.11 grams, which resulted in a positive nitrogen balance of 15.48 grams. There were 58.5 grams of scales during this period, 10.20% of which was nitrogen, equalling 5.97 grams of nitrogen. After subtracting this from 15.48, we still have a net gain in the body of 9.51 grams of nitrogen. The patient's average weight for the period was 41.35 kg., a loss of 0.45 kg. from the previous week.

In Period 5, the patient received the same diet as in Period 4, both quantitatively and qualitatively. No analyses were made during this period.

In Period 6, the same diet was maintained. On January 6th 20.0 grams of urea, containing 9.33 grams of nitrogen, were again added to the diet. Of this, 9.16 grams were recovered in the urine. Almost quantitative elimination. The total amount of nitrogen ingested during this period was 43.62 grams; 42.5 grams of scales were collected, containing 10.66%, or 4.53 grams of nitrogen. Again, we have a net nitrogen retention—in this case of 17.04 grams. In spite of this retention of nitrogenous material, there was a considerable loss of body weight. The average body weight for this period was 40.1 kg., a loss of 1.25 kg. in two weeks. This indicates clearly that 38 to 42 calories per kg. of body weight was not sufficient to cover the patient's bodily needs. This fact makes nitrogenous retention the more remarkable. During these periods of low nitrogen diet the skin became much paler, smooth, and continued improving. The scales became finer and less bulky.

In Period 7, the patient was placed on a diet consisting of 20.54 grams of nitrogen per day, with an energy supply in the food of 53.6 calories per kg. of body weight. The nitrogen retention in the body during the two weeks was enormous, amounting to 66.10 grams in Period 7 and to 60.94 grams in Period 8. A total retention of 127.04 grams of nitrogen in two weeks. If we subtract from this the 1.54 grams of nitrogen found in the scales of Period 7 and the 5.58 grams of nitrogen found in the scales and perspiration of Period 8, *there remains a positive nitrogen balance of 119.88 grams in a period of 13 days.* A point of great significance in this connection is the fact that in spite of the retention of 66 grams of nitrogen—412.5 grams of protein—in Period 7, the patient's average weight for the period remained absolutely constant. During the 8th period, however, there was a gain of 0.75 kg. We call special attention to this, because we shall later discuss the subject in detail.

When we analyze the daily relationship that exists between the ingested nitrogen—either in the form of urea or protein—and the daily nitrogenous elimination in the urine, we get an insight into the mechanism of the nitrogenous retention. This is brought out in table No. 1.

This table shows that, after the addition of urea to the diet, the nitrogen rise in the urine was very prompt—rising to almost 11 grams in one day. The addition of a much larger amount of nitrogen in the form of protein, milk and meat, resulted in a comparatively slight rise in the urinary nitrogen, the amount increasing slowly but steadily, for only on the sixth day did it exceed 10 grams.

TABLE I

Dates	Dec. 19	20	21	22	23	24	Jan. 3	1	5	6	7	8	9	10	11	12	13	14
Nitrogen ingested.	6.81	6.72	6.68	16.26 <sup>1</sup>	6.78	7.39	6.76	6.56	6.35	16.83 <sup>1</sup>	6.61	8.11	20.07 <sup>2</sup>	20.65 <sup>2</sup>	20.27 <sup>2</sup>	20.66 <sup>2</sup>	20.27 <sup>2</sup>	21.31 <sup>2</sup>
Nitrogen excreted in urine	3.70	3.61	4.01	10.79	5.17	4.06	3.30	3.21	3.28	10.91	4.81	3.12	5.76	7.44	7.82	8.61	9.11	10.52

<sup>1</sup> 20.0 gms. of urea, containing 9.33 gms. of nitrogen were added to diet. The high nitrogen intake was therefore due to the urea.  
<sup>2</sup> The high nitrogen intake was due to protein in form of milk and meat.

TABLE II  
PROTEIN METABOLISM OF PATIENT No. 3

Period	Date, 1912	No. of Days	Nitrogen in Urine	Nitrogen in Feces	Total N Excreted	N in Food	N Balance	Patient's Weight	Calories per Kg. of Body Weight	Calories per Sq. M. of Body Surface	Urinary N per Kg. of Body Weight	Food N per Kg. of Body Weight
I	Nov. 27 Dec. 3	7	71.24	12.05	86.29	130.10	+44.11	10.85	45.1	1262	0.26	0.456
II	Dec. 4 Dec. 10	7	82.50	11.19	97.39	136.03	+38.61	11.37	49.4	1389	0.286	0.470
III	Dec. 11 Dec. 17	7	41.23	5.06	49.29	87.51	+31.22	11.80	37.9	1068	0.151	0.285
IV	Dec. 18 Dec. 24	7	35.47	6.61	42.11	57.39	+15.48	11.35	38.3	1077	0.123	0.199
V	Dec. 1913	(7)						40.42				
VI	Jan. 1 Jan. 8	8	35.51	8.08	43.62	65.19	+21.57	40.10	42.0	1167	0.111	0.203
VII	Jan. 9 Jan. 11	6	49.39	7.71	57.13	123.23	+66.10	40.15	51.6	1191	0.205	0.512
VIII	Jan. 15 Jan. 21	7	74.09	12.50	86.59	117.53	+60.94	40.9	52.5	1172	0.259	0.516
IX	Jan. 22 Jan. 28	7	29.08	6.68	35.76	46.08	+10.32	40.15	41.3	1231	0.103	0.164
X	Jan. 29 Feb. 4	7	22.03	6.65	31.68	46.15	+14.47	39.60	38.1	966	0.0796	0.166
XI	Feb. 5 Feb. 11	7	21.12	6.93	31.05	47.80	+16.75	39.15	46.4	1280	0.0881	0.174
XII	Feb. 12 Feb. 18	7	27.18	3.77	31.25	48.71	+17.46	39.69	41.2	1255	0.0992	0.176
XIII	Feb. 19 Feb. 25	7	28.12	10.17	38.99	53.30	+14.31	39.65	43.9	1215	0.102	0.192
XIV	Feb. 26 March 3	6	28.57	6.12	34.69	40.84	+6.15					
XV	March 10 March 16	7	41.15	11.31	52.46	36.87	+11.78					
XVI	March 17 March 23	7	41.03	12.63	53.66	150.77	+30.81					
XVII	March 24 March 30	7	121.31	12.93	122.68	153.52	+30.81	41.6	51.5	2287	0.382	0.528
XVIII	March 31 April 6	7	125.53	9.15	131.98	150.79	+16.55	42.0	55.2	2319	0.413	0.513
XIX	April 7 April 16	10	115.98	14.26	160.21	163.99	+29.01	42.5	51.8	2329	0.422	0.551
Total		128	1153.86	170.11	1323.97	1816.29	492.32					

<sup>1</sup> No analysis made.

<sup>2</sup> March 4th March 9th, no analysis made.

*This and also the following days show with what remarkable tenacity the patient's body holds on to the nitrogen of the protein.*

In considering all the sources of nitrogen excretion in a human individual, one must bear in mind that some nitrogenous material is excreted through the skin with the perspiration. On January 17th the perspiration of the patient was collected as follows: she wore a suit of woolen underwear which had previously been washed in alcohol and dilute hydrochloric acid. This suit was worn for three days, January 17th, 18th and 19th. The suit was then washed in alcohol and dilute hydrochloric acid solution. The collected washings were evaporated and the nitrogen determined by Kjeldahl. For the three days there were found 1.02 grams of nitrogen (0.34 gram per day). During the two days following, January 20th and 21st, 0.59 gram of nitrogen was collected in the perspiration (0.30 gram per day). These amounts are within the range of the normal and do not show any excessive nitrogen excretion through the skin.

During these two periods of high nitrogen diet and high nitrogen retention, the patient's skin became much more inflamed on the lower part of the body.

From the results thus far obtained we noticed a marked beneficial effect that the low protein diet produced on the course of the psoriasis, and that the high protein diet tended very strongly to stimulate the spread of disease; we therefore decided to keep the patient on a low protein and largely vegetable diet. In Period 9 the patient received a diet consisting of 44.3 calories per kg. of body weight, and 6.58 grams of nitrogen per day (0.164 gram of nitrogen per kg.). The total amount of nitrogen received in the food for the period was 46.08 grams. The amount eliminated in the urine and faeces was 35.76 grams. During the three days, January 23rd to 25th inclusive, 1.71 grams of nitrogen were collected in the scales and 0.86 gram in the perspiration, a total of 2.47 grams. When calculated for the week, we have 6.0 grams of nitrogen eliminated through the scales and perspiration. This leaves a net retention of 4.32 grams. The average weight was 40.15 kg.—a loss of 0.75 kg.

In Period 10, the diet was the same as in the preceding period with regard to its nitrogen content, but it contained a lower caloric value—34.9 calories per kg., or 1381 calories per day. When we subtract from this value the caloric value of the unresorbed food in the faeces, which must have been high considering the high amount of nitrogen in the faeces, and estimate the net caloric supply on the basis of the patient's body surface area, we find that this was a very poor diet as far as the energy supply was concerned. The patient's

average weight was 39.60 kg.—a loss of 0.55 kg.—which means that the patient burned some of her own body fat. In spite of it all, however, *there was a marked and persistent nitrogen retention*, which amounted to 14.47 grams for the week, or 2.07 grams per day. Associated with this, there was plainly noticeable a marked and gradual improvement in the condition of the patient's skin. The amount of scales for the week was only 3.5 grams, with a nitrogen content of 0.386 grams.

In Periods 11 and 12, the same diet was continued with less than 7 grams of nitrogen in the food per day. The caloric value was raised, by the addition of 125 grams of cream and 100 grams of cornstarch, to about 1,800 calories per day (46.4 per kg.). (See details in chart, p. 830.) The patient's weight during Period 11 fell to 39.15 kg., a loss of 0.45 kg., but it returned to 39.60 kg. in Period 12. During the two periods, the nitrogen balance persisted on the positive side, to the extent of over two grams per day, which amounted to 16.75 grams for Period 11 and 17.46 grams for Period 12. There was no measurable scaling during these two periods and the perspiration collected during Period 12 contained only 0.708 grams of nitrogen.

*These nitrogen retentions, extending over so long a period, are the very highest that have ever been recorded in human individuals kept on such a low protein intake.*

In Period 13, 53.3 grams of nitrogen were ingested and 38.99 grams were eliminated in the urine and faeces, resulting in a retention of 14.31 grams of nitrogen. The average body weight remained constant.

In Period 14, 40.84 grams of nitrogen were ingested and 34.69 grams were eliminated—a retention of 6.15 grams. The body weight was not recorded during this week.

During the last two periods (13 and 14), a normal individual, Miss W., an employee of the hospital, was placed on exactly the same diet as was Patient No. 3. One of the objects of that experiment was to demonstrate the difference between the behavior of normal and psoriatic individuals with regard to the maintenance of nitrogenous equilibrium when on a diet of about 7 grams of nitrogen per day.

The difference is very striking. Whereas Miss W. showed a negative nitrogen balance during these two periods, *i.e.*, catabolized more than she ingested, Patient No. 3 showed a retention of over 20 grams.

This experiment presents several points of interest which will

be taken up in a subsequent paper. *The most significant thing here is the fact that a psoriatic individual can retain nitrogen on a diet on which a normal individual fails to even maintain equilibrium.*

It is seen from the above that, without any local treatment, a severe case of psoriasis became almost entirely cleared during a period in which the diet was especially low in its nitrogen content. It was also observed that during the periods in which the nitrogen content in the food was high, the disease spread considerably. These results led us to suspect that there was some intimate relationship between the protein content of the food and the severity of the disease. At this stage of the investigation, the patient's skin "was free of eruption over the greater part of the body," and the scales were reduced to immeasurable quantities. We therefore decided to place the patient on a high protein diet with the object of testing the correctness of our supposition.

In Periods 15, 16, 17 and 18, the patient was kept on a diet similar to that of Periods 7 and 8. The average nitrogen intake per day was between 21 and 22 grams. The amount of nitrogen ingested in Period 15 was 150.77 grams. The amount excreted in the urine and faeces was 105.99 grams; a retention of 44.78 grams per week or 6.40 grams per day.

The reader will please note the amount of urinary nitrogen in Periods 7 and 8 and compare them with those of Periods 15, 16 and 17. The highest amount eliminated then was 11.15 grams (on January 21st); the nitrogen elimination in the latter periods exceeded 17 grams per day. In Periods 7 and 8, when the disease was very active, the patient, on a diet of 20.54 and 21.07 grams of nitrogen per day, retained 11.02 and 8.79 grams of nitrogen for the two periods, respectively.

In Periods 15, 16 and 17, when the activity of the disease was considerably checked and the patient's skin was rapidly improving, the administration of a diet similar to the above was accompanied by a retention of 6.40 grams per day in Period 15, 4.40 grams in Period 16 and only 2.36 grams in Period 17.

In Period 16, 153.52 grams of nitrogen were ingested and 122.68 grams excreted in the urine and faeces, resulting in a retention of 30.84 grams or 4.40 grams per day. The patient's average weight in this period was 41.6 kg.

In Period 17, 150.79 grams were ingested and 134.24 grams excreted, resulting in a retention of 16.55 grams. The patient's average weight was 42.0 kg., a gain of 0.4 kg.

In Period 18, 163.99 grams of nitrogen were ingested and 134.98

were eliminated in the urine and faeces, resulting in a retention of 29.01 grams. The patient's average weight was 42.5 kg., a gain of 0.5 kg. On April 1st, 20 grams of urea, containing 9.33 grams of nitrogen, were added to the diet. The nitrogen elimination in the urine rose from 16.20 to 25.05 grams. Of the urea nitrogen, 8.28 grams were recovered in the urine. This shows that, even on a high protein diet, the kidneys' eliminative capacity for the principal end product of protein catabolism is not in any way disturbed.

Period 19 consisted of 10 days and was divided into two halves. During the first half, a very high protein diet was given, amounting to 28.08, 28.67, 27.22, 29.61 and 28.61 grams of nitrogen per day. During this period there were obtained the highest figures for eliminated nitrogen, the highest point being reached on the 10th of April, when 23.85 grams of nitrogen were eliminated. The amount of nitrogen retained during these 5 days was 26.17 grams. On April 12th the nitrogen in the food was reduced to 5.64 grams. This low nitrogen diet was continued for the following 4 days, namely, 5.75, 5.73, 6.15 and 5.39 grams of nitrogen per day. Contrary to our previous experiences, no equilibrium was established and the patient remained in negative nitrogen balance.

On April 16th the patient left the hospital.

#### SUMMARY OF RESULTS OBTAINED IN THE STUDY OF PATIENT NO. 3.

When we come to summarize the results obtained from a study of this case, two important facts stand out prominently:

I. The very marked and persistent nitrogen retention throughout the entire course of the investigation.

II. The relationship that appears to exist between the amount of nitrogen in the food and the course of the disease (see table No. 2).

Throughout the investigation of this case, which lasted 128 days, the patient ingested in her food 1,816.29 grams of nitrogen. During this period, she eliminated in the urine and faeces, 1,323.97 grams of nitrogen, which leaves a positive balance in favor of the body of 492.32 grams. To get the actual amount of nitrogen retained in the body, we must subtract the amount of nitrogen given off in the form of scales and perspiration. The scales were collected in most of the periods in which exfoliation took place. Their analyses follow:

Period	1.	Not analyzed. 6.0 grams of nitrogen assumed.
"	2.	Not analyzed. 6.0 grams of nitrogen assumed.
"	3.	5.50 grams of nitrogen.
"	4.	5.97 grams of nitrogen.
"	5.	Not analyzed. 6.0 grams of nitrogen assumed.
"	6.	4.53 grams of nitrogen.
"	7.	1.54 grams of nitrogen.
"	8.	3.97 grams of nitrogen.
"	9.	1.71 grams of nitrogen.
"	10.	0.39 grams of nitrogen.

After the 10th period, there was so little scaling that its collection became impossible. The total amount of nitrogen collected through the scaling was 23.6 grams. If we assume the maximum amount of nitrogen to have been lost in the scales of the periods in which no analyses were made, then the total amount of nitrogen thus lost would not exceed 51.6 grams.

The perspiration was collected during the period of January 17th to 19th and found to contain 1.02 grams of nitrogen—0.34 grams per day. During January 20th and 21st, 0.59 grams were found—0.30 gram per day. During January 23rd to 25th, 0.86 gram were collected—0.29 gram per day. Between February 12th to 18th, 0.71 gram of nitrogen was collected in the perspiration—0.10 gram per day. We are inclined to attribute the high figures in the first examinations to the inclusion of small particles of exfoliated epithelium in the underwear, which were analyzed with the perspiration (the patient scaled quite freely during that period) and are of the opinion that 0.1 gram per day is the more correct value for nitrogen loss through perspiration.<sup>20</sup> We shall, however, accept 0.3 gram per day as the basis of calculation of the approximate amount of nitrogen lost through perspiration. In 128 days the patient could not have lost more than 38 grams of nitrogen in this way. When we add this to the 51.6 grams lost in the scales, we find a total loss of  $89.6$  grams through the skin. This leaves a net nitrogen balance of  $492.3 - 89.6 = 402.7$  grams. This amount of nitrogen must have been added to the patient's body during the course of this investigation.

From the above data, it seems that this patient, who was suffering from a most widespread psoriasis, had a pronounced extension of the eruption under a relatively high nitrogen dietary during the first two weeks of her hospital sojourn (Fig. 1). After the inauguration of a low nitrogen diet, the inflammation in the skin and the amount of scaling gradually became less. Later, a two weeks' regime of high nitrogen appeared to cause increased inflammation, the latter subsiding after the institution of a low nitrogen diet.



## PATIENT NO. 3. MISS B. L. PERIOD I

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	155.5	1.466	409	Soup.....	153.0	0.356	0.545	...
Butter.....	15.5	0.12	116	Lima beans.....	94.0	1.232	1.16	69
Milk.....	500.0	5.39	340	Neat.....	103.0	5.33	5.50	278
Coffee.....	125.0	0.018	...	Lettuce.....	45.0	0.192	0.086	8
Orange.....	68.5	0.128	31	Tongue.....	98.5	3.20	3.15	226
Egg.....	84.5	2.119	129	Swiss cheese.....	30.5	4.12	1.26	126
Tea.....	250.0	0.015	...					
Custard.....	60.0	0.741	109	Total.....			19.169	1841

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance		
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-moniam Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter-mined Nitrogen	Nitrogen in Feces	Total	Urea N	Am-moniam N	Creatinin N
1912.													
Nov. 27	560	1.028	8.14	6.85	0.350	0.189	0.324	0.46	1.722	100	84.2	3.9	3.99
" 28	895	1.028	11.31	9.32	0.611	0.188	0.311	0.88	1.722	100	82.1	5.4	2.75
" 29	1715	1.012	9.82	7.59	0.629	0.253	...	...	1.722	100	81.3	6.4	2.57
" 30	1660	1.014	9.87	7.91	0.628	0.133	...	...	1.722	100	80.1	6.5	1.34
Dec. 1	1480	1.016	11.96	10.17	0.854	0.203	...	...	1.722	100	85.0	7.1	1.70
" 2	1120	1.024	12.20	9.85	0.591	0.188	...	...	1.722	100	80.8	4.8	1.54
" 3	1420	1.019	10.94	9.13	0.584	0.178	...	...	1.722	100	83.4	5.3	1.62
Total.....			74.24	61.22	4.23	1.33	...	...	12.05		82.8	5.2	1.79
Average			10.61	8.79	0.61	0.190	...	...	1.722				

## BALANCE FOR PERIOD

Patients average weight.....	40.85 kgs.
Calories per Kg. of body weight.....	45.1
Nitrogen in food.....	130.40 gms.
Nitrogen in urine.....	74.24
Nitrogen in feces.....	12.05
Total nitrogen excreted.....	86.29
Nitrogen balance.....	+44.11 gms.

## PATIENT NO. 3. MISS B. L. PERIOD II

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	132.0	1.51	1.99	347	Soup.....	101.0	0.372	0.376	259
Butter.....	3.5	0.12	0.004	26	Meat.....	96.0	5.20	4.98	10
Milk.....	900.0	0.529	4.76	612	Lettuce.....	54.0	0.192	0.104	107
Tea.....	250.0	0.015	0.037	...	Peas.....	99.0	0.753	0.746	119
Coffee.....	125.0	0.048	0.06	...	Gelatin.....	108.0	0.444	0.480	168
Eggs.....	89.0	2.19	1.95	136	Corned beef.....	61.0	4.98	3.04	20
Cheese.....	39.2	2.17	0.85	163	Plasmon.....	5.0	11.76	0.588	2044
Crackers.....	18.3	1.455	0.268	77	Total.....	20.233	...	...	...

Date	Analysis of Urine and Feces							Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance						
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1912																			
Dec. 4	1560	1.019	12.22	10.18	0.69	0.182	.....	.....	2.07	100	83.32	5.6	1.49	.....	.....	14.29	20.23	+5.94	.....
" 5	1395	1.017	10.44	9.06	0.63	0.229	.....	.....	2.07	100	86.8	6.0	2.20	.....	.....	12.51	18.88	+6.37	.....
" 6	1620	1.019	12.75	10.58	0.73	0.178	.....	.....	2.07	100	82.9	5.8	1.40	.....	.....	14.82	18.10	+3.28	.....
" 7	1630	1.015	12.54	10.68	0.62	0.286	.....	.....	2.07	100	85.2	5.0	2.28	.....	.....	14.61	18.97	+4.36	.....
" 8	1660	1.015	11.84	9.32	0.69	0.172	.....	.....	2.07	100	78.7	5.8	1.45	.....	.....	13.91	20.94	+7.03	.....
" 9	975	1.026	11.10	10.17	0.59	0.179	.....	.....	2.07	100	86.3	5.3	1.61	.....	.....	13.17	19.51	+6.34	.....
" 10	790	1.031	12.01	10.16	0.57	0.279	.....	.....	2.07	100	84.6	4.8	2.32	.....	.....	14.08	19.40	+5.32	.....
Total	.....	.....	82.90	70.15	4.53	1.505	.....	.....	14.49	.....	.....	.....	.....	.....	.....	97.39	136.03	+38.64	.....
Average	per	Day	11.84	10.02	0.647	0.215	.....	.....	.....	.....	84.35	5.46	1.81	.....	.....	13.91	19.43	+5.52	41.37

## BALANCE FOR PERIOD

Patient's average weight.....	41.37 kgs.
Calories per kg. of body weight.....	49.4
Nitrogen in food.....	136.03 gms
Nitrogen in urine.....	82.90
Nitrogen in feces.....	14.19
Total nitrogen excreted.....	97.39
Nitrogen balance.....	+38.64 gms.

## PATIENT NO. 3. MISS B. L. PERIOD III

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	114	1.492	1.70	330	Beets.....	50.0	0.383	0.192	18
Butter.....	11.5	0.12	0.014	86	Potatoes.....	95.0	0.374	0.357	86
Milk.....	450	0.537	2.42	310	Eggs.....	44.5	2.19	0.975	68
Tea.....	250	0.015	0.037	...	Apple.....	153.0	0.064	0.096	87
Coffee.....	125	0.048	0.06	...	Crackers.....	114.5	0.128	0.185	66
Oatmeal.....	25	2.48	0.62	100	Jelly.....	9.5	1.455	0.138	40
Meat.....	93	4.94	4.58	251	Total.....	31.0	0.080	0.024	82
Soup.....	9	0.084	0.008	59					
Cornstarch pudding.....	101.5	0.276	0.279	59					
								11.685	1583

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance							
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1912																		
Dec. 11	1220	1.019	7.96	6.20	0.67	.....	.....	.....	0.723	100	77.8	8.4	.....	.....	8.68	11.68	+3.00	.....
" 12	1400	1.013	6.53	4.78	0.61	.....	.....	.....	0.723	100	73.2	9.8	.....	.....	7.25	11.32	+4.07	.....
" 13	1400	1.015	5.94	4.37	0.52	.....	.....	.....	0.723	100	73.5	8.7	.....	.....	6.66	11.87	+5.21	.....
" 14	1460	1.013	6.09	4.82	0.51	.....	.....	.....	0.723	100	79.1	8.4	.....	.....	6.81	12.02	+5.80	.....
" 15	1200	1.017	5.52	3.84	0.51	.....	.....	.....	0.723	100	69.6	9.9	.....	.....	6.24	12.04	+5.80	.....
" 16	1380	1.017	5.81	4.36	0.56	.....	.....	.....	0.723	100	75.1	9.6	.....	.....	6.53	12.37	+5.84	.....
" 17	1760	1.014	6.37	4.33	0.52	.....	.....	.....	0.723	100	68.0	8.1	.....	.....	7.11	12.21	+5.10	.....
Total.....	.....	.....	44.23	32.70	3.96	.....	.....	.....	5.06	.....	.....	.....	.....	.....	49.29	83.51	+34.22	.....
Average	.....	.....	6.32	4.67	0.566	.....	.....	.....	.....	.....	73.90	8.96	.....	.....	7.04	11.93	4.89	41.80

## BALANCE FOR PERIOD

Patient's average weight.....	41.80 kgs.
Calories per kg. of body weight.....	37.9
Nitrogen in food.....	83.51 gms.
Nitrogen in urine.....	41.23
Nitrogen in feces.....	5.06
Total nitrogen excreted.....	49.29
Nitrogen balance.....	+34.22 gms.

## ANALYSIS OF SCALPS COLLECTED DURING PERIOD:

Weight.....	49.0
Per Cent. of Nitrogen.....	11.22
Total Nitrogen.....	5.50 gr.

## PATIENT NO. 3. MISS B. L. PERIOD IV

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount of Nitrogen	Calories	Per Cent of Nitrogen	Amount of Nitrogen	Body Calories
Bread.....	154.5	1.525	2.36	406	Orange.....	0.138	406	0.128	0.138	50
Butter.....	15	0.12	0.018	112	Lettuce.....	0.116	112	0.192	0.116	11
Milk.....	175	0.534	0.935	119	Crackers.....	0.138	119	1.455	0.138	40
Rice croquette.....	145	0.638	0.925	161	Jelly.....	0.08	34	0.08	0.027	90
Mashed potatoes.....	100	0.362	0.362	91	Pears.....	0.096	244	0.096	0.034	44
Carrots.....	50	0.180	0.09	22	Tea.....	0.015	250	0.015	0.037	...
Cornstarch pudding.....	156	0.184	0.287	245	Coffee.....	0.048	125	0.048	0.06	...
Oatmeal.....	95	2.48	0.62	99						
Fried potatoes.....	102	0.563	0.575	93	Total.....				6.922	1584

## Analysis of Urine and Feces

Date	Vol- ume	Specific Gravity	Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance		
			Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinine Nitrogen	Undeter- mined Nitrogen	Nitrogen Excreted in Urine & Feces	N Balance
1912										
Dec. 18	1350	1.015	4.10	2.57	0.43	.....	.....	.....	5.05	6.92
" 19	1500	1.013	3.70	2.30	0.36	.....	.....	.....	4.65	6.84
" 20	1500	1.011	3.61	2.24	0.31	.....	.....	.....	4.56	6.72
" 21	1395	1.012	3.61	2.79	0.28	.....	.....	.....	4.99	6.68
" 22	1920	1.013	10.79	9.49	0.33	.....	.....	.....	11.74	16.26
" 23	1360	1.015	5.17	3.76	0.35	.....	.....	.....	6.12	6.78
" 24	1600	1.013	4.06	2.73	0.32	.....	.....	.....	5.01	7.39
Total			35.47	25.88	2.38	.....	.....	.....	42.11	57.59
Average			3.90	2.526	0.31	.....	.....	.....	6.893	7.21

1 Dec. 22, 1912, 20.0 grams of urea given *per os* = 9.33 grams of nitrogen. Of this, 8.16 gms. were recovered in the urine.  
 2 In calculating the average for this period, the first four days and the seventh were taken into consideration.  
 3 In calculating the average nitrogen intake per day, the 9.33 gms. of urea nitrogen were not included.

## BALANCE FOR PERIOD

Patient's average weight.....	41.35 kgs.
Calories per kg. of body weight.....	38.3
Nitrogen in food.....	57.59 gms.
Nitrogen in urine.....	35.47
Nitrogen in feces.....	6.64
Total nitrogen excreted.....	42.11

Nitrogen balance..... +15.48 gms.

ANALYSIS OF SAMPLES COLLECTED DURING PERIOD:	
Weight	58.5
Per Cent of Nitrogen	10.20
Total Nitrogen	5.97 gms.

## PATIENT NO. 3. MISS B. L. PERIOD VI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	152	1.45	2.20	400	Cornstarch pudding.....	150	0.054	0.08	235
Butter.....	28	0.12	0.04	210	Fried potatoes.....	201	0.586	1.17	83
Milk.....	175	0.525	0.92	119	Oatmeal.....	25	2.48	0.62	99
Tea.....	250	0.015	0.10	...	Apple sauce.....	100	0.032	0.03	57
Coffee.....	125	0.048	0.06	...	Apple.....	134	0.064	0.07	76
Rice croquette.....	154	0.549	0.85	171	Jelly.....	30	0.08	0.03	79
Mashed potatoes.....	100	0.348	0.35	91	Crackers.....	9.5	1.455	0.14	40
Carrots.....	50	0.105	0.05	22	<b>Total</b> .....	.....	.....	<b>6.71</b>	<b>1682</b>

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance							
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																		
Jan. 1	1320	1.017	3.39	2.17	0.28	.....	.....	.....	1.01	100	64.0	8.2	.....	.....	4.40	6.71	+2.31	.....
" 2	1100	1.019	3.16	2.04	0.24	.....	.....	.....	1.01	100	64.7	7.6	.....	.....	4.17	6.93	+2.76	.....
" 3	1660	1.014	3.30	2.05	0.31	.....	.....	.....	1.01	100	62.2	9.6	.....	.....	4.31	6.76	+2.45	.....
" 4	1460	1.014	3.24	2.04	0.28	.....	.....	.....	1.01	100	63.0	8.7	.....	.....	4.25	6.56	+2.31	.....
" 5	1280	1.017	3.28	2.46	0.24	.....	.....	.....	1.01	100	75.0	7.4	.....	.....	4.29	6.35	+2.06	.....
" 6	2290	1.011	10.94 <sup>1</sup>	9.48 <sup>1</sup>	0.33	.....	.....	.....	1.01	100	86.6 <sup>3</sup>	3.0	.....	.....	11.95	16.83 <sup>2</sup>	+4.88	.....
" 7	1870	1.013	4.81	3.60	0.30	.....	.....	.....	1.01	100	74.9	6.3	.....	.....	5.82	6.61	+0.79	.....
" 8	2020	1.011	3.42	2.36	0.31	.....	.....	.....	1.01	100	69.1	9.1	.....	.....	4.43	8.44	+4.01	.....
Total.....	.....	.....	35.54	26.20	2.29	.....	.....	.....	8.08	.....	.....	.....	.....	.....	43.62	65.19	+21.57	.....
Average.....	.....	.....	3.298 <sup>2</sup>	2.187 <sup>3</sup>	0.285	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.98 <sup>3</sup>	.....	40.1

<sup>1</sup> Jan. 6, 1913, 20.0 gms. of urea given *per os* = 9.33 gms. of nitrogen. Of this 9.16 gms. were recovered in the urine.

<sup>2</sup> In calculating the average for this period, the first five days and the eighth day were taken into consideration.

<sup>3</sup> In calculating the average nitrogen intake per day, the 9.33 gms. of urea nitrogen were not included.

## BALANCE FOR PERIOD

Patient's average weight.....	40.10 kgs.
Calories per kg. of body weight.....	42.0
Nitrogen in food.....	65.19 gms.
Nitrogen in urine.....	35.54
Nitrogen in feces.....	8.08
Total nitrogen excreted.....	43.62
Nitrogen balance.....	+21.57 gms.
ANALYSIS OF SCALES COLLECTED DURING PERIOD	
Weight.....	42.5
Per Cent of N Nitrogen.....	10.66
Total Nitrogen.....	4.53 gms.

PATIENT NO. 3. MISS B. L. PERIOD VII

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	155	1.63	2.52	408	Meat.....	101	4.60	4.65	273
Butter.....	14	0.12	0.02	103	Apricots.....	80	0.08	0.06	52
Milk.....	1000	0.325	3.25	682	Toast beef.....	49.5	5.20	2.57	153
Tea.....	250	0.015	0.037	..	Plasmon.....	10.0	11.78	1.18	40
Eggs.....	88.5	2.19	1.94	135	Cheese.....	51.5	2.17	1.12	214
Asparagus soup.....	100	0.313	0.313	...	Coffee.....	125	0.018	0.06	...
Lettuce.....	40	0.192	0.08	8					
Crackers.....	19	1.40	0.27	80	Total.....			20.07	2150

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen						Daily Nitrogen Balance			
	Vol- ume	Speci- fic Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Unde- termin- ed Nitrogen	Creatinin Nitrogen	Am- monia N	Urea N	Creatinin N	Unde- termin- ed N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																
Jan. 9	1290	1.016	5.76	3.39	0.54	.....	.....	1.29	100	58.8	.....	.....	7.05	20.07	+13.02	.....
" 10	1720	1.016	7.44	5.51	0.66	.....	.....	1.29	100	74.0	.....	.....	8.73	20.65	+11.92	.....
" 11	1520	1.015	7.82	5.85	0.70	.....	.....	1.29	100	74.8	.....	.....	9.11	20.27	+11.16	.....
" 12	1870	1.016	8.64	6.67	0.65	.....	.....	1.29	100	77.2	.....	.....	9.93	20.66	+10.73	.....
" 13	1865	1.014	9.11	7.05	0.75	.....	.....	1.29	100	77.4	.....	.....	10.40	20.27	+ 9.87	.....
" 14	1910	1.014	10.62	8.30	0.82	.....	.....	1.29	100	78.1	.....	.....	11.91	21.31	+ 9.40	.....
Total.....			49.39	36.77	4.12	.....	.....	7.74	.....	.....	.....	.....	57.13	123.23	+66.10	.....
Average			8.23	6.13	0.69	.....	.....	1.29	.....	.....	.....	.....	9.52	20.54	+11.02	40.15

BALANCE FOR PERIOD

Patient's average weight.....	40.15 kgs.
Calories per kg. of body weight.....	53.6
Nitrogen in food.....	123.23 gms.
Nitrogen in the urine.....	49.39
Nitrogen in the feces.....	7.74
Total nitrogen excreted.....	57.13
Nitrogen balance.....	+66.10 gms.

ANALYSIS OF SCALES COLLECTED DURING PERIOD

Weight.....	15.5
Per Cent of Nitrogen.....	9.92
Total Nitrogen.....	1.54 gms.

## PATIENT NO. 3. MISS B. L. PERIOD VIII

The same as in the preceding period

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance						
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																	
Jan. 15	1760	1.013	9.99	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	11.77	20.79	+9.02	.....
" 16	1730	1.017	10.57	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	12.35	20.94	+8.59	.....
" 17	2235	1.012	10.51	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	12.29	21.25	+8.96	.....
" 18	1940	1.014	10.61	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	12.39	20.48	+8.09	.....
" 19	2160	1.013	10.51	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	12.29	21.75	+9.46	.....
" 20	1850	1.016	10.75	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	12.53	20.49	+7.96	.....
" 21	2330	1.013	11.15	.....	.....	.....	.....	.....	1.78	.....	.....	.....	.....	12.93	21.83	+8.90	.....
Total....			74.09	.....	.....	.....	.....	.....	12.5	.....	.....	.....	.....	86.59	147.53	+60.94	.....
Average.			10.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12.39	21.07	+8.70	40.9

## BALANCE FOR PERIOD

Patient's average weight .....	40.9	kgs.
Calories per kg. of body weight. ....	52.5	
Nitrogen in food.....	147.53	gms.
Nitrogen in urine.....	71.09	
Nitrogen in feces.....	12.50	
Total nitrogen excreted.....	86.59	
Nitrogen balance.....	+60.94	gms.

## ANALYSIS OF SCALES AND PERSPIRATION

Jan. 15 to 17, 11.0 gms. scales. N = 11.82%	1.29 gm. nitrogen	} Seven days
Jan. 18 to 19, 15.0 " " N = 11.56%	1.73 " "	
Jan. 20 to 21, 8.6 " " N = 11.05%	0.95 " "	
Jan. 17 to 19, Collected perspiration (see text)	1.02 " "	} Five days
Jan. 20 to 21, " "	0.59 " "	
Total nitrogen eliminated through skin,	5.58	





## PATIENT NO. 3. MISS B. L. PERIOD X

Date	Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance								
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Creatinin N	Uric Acid N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913																	
Jan. 29	1780	1.009	3.01	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.39	6.45	+2.06	.....
" 30	1780	1.011	3.06	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.44	6.49	+2.05	.....
" 31	2120	1.008	3.12	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.50	6.75	+2.25	.....
Feb. 1	1740	1.013	3.17	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.55	6.42	+1.87	.....
" 2	2435	1.008	3.13	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.51	6.84	+2.33	.....
" 3	2360	1.006	3.10	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.48	6.49	+2.01	.....
" 4	2180	1.011	3.44	.....	.....	.....	.....	.....	1.38	.....	.....	.....	.....	4.82	6.71	+1.89	.....
Total.....		.....	22.03	.....	.....	.....	.....	.....	9.65	.....	.....	.....	.....	31.68	46.15	+14.47	.....
Average.....		.....	3.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.53	6.59	+2.07	39.60

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	151	1.62	2.45	397	Baked potatoes.....	105	0.427	0.45	95
Butter.....	39	0.12	0.05	292	Macaroni.....	100	0.635	0.63	89
Milk.....	125	0.517	0.63	85	Pineapple.....	100	0.03	0.03	42
Tea.....	250	0.015	0.037	...	Rice cakes.....	100	0.650	0.65	111
Coffee.....	125	0.048	0.06	...	Apple.....	94.5	0.064	0.06	54
Oatmeal.....	25	2.48	0.62	98	Pear.....	164	0.096	0.16	92
Asparagus soup.....	150	0.177	0.27	...	Total.....	.....	.....	6.45	1381
Spinach.....	50	0.610	0.30	26					

## BALANCE FOR PERIOD

Patient's average weight.....	39.60 kgs.
Calories per kg. of body weight.....	31.90
Nitrogen in food.....	46.15 gms.
Nitrogen in urine.....	22.03
Nitrogen in feces.....	9.65
Total nitrogen excreted.....	31.68
Nitrogen balance.....	+14.47 gms.

## ANALYSIS OF SCALES

Weight.....	3.5
Per Cent of Nitrogen.....	11.05
Total Nitrogen.....	0.386 gm.

## PATIENT NO. 3. MISS B. L. PERIOD XI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	155	1.83	2.84	407	Cauliflower.....	49	0.272	0.13	14
Butter.....	38.5	0.12	0.05	299	Cornstarch.....	100	0.062	0.06	157
Cream.....	125	0.417	0.52	236	Potato salad.....	160	0.359	0.22	54
Coffee.....	125	0.048	0.06	98	Pancakes.....	114	0.383	1.06	190
Tea.....	250	0.015	0.037	98	Grapes.....	121	0.208	0.25	104
Oatmeal.....	25	2.48	0.62	182	Grapefruit.....	114	0.13	0.15	52
Potato cake.....	200	0.383	0.77	22	Rice soup.....	150	0.046	0.07	....
Carrots.....	50	0.162	0.08	22	<b>Total.....</b>	....	....	<b>6.917</b>	<b>1815</b>

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance			
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Undeter- mined Nitrogen	Uric Acid Nitrogen	Creatinin N	Uric Acid N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913														
Feb. 5	2220	1.010	3.48	....	....	....	....	....	....	....	4.47	6.92	+2.45	....
" 6	1910	1.010	3.45	....	....	....	0.99	0.99	....	....	4.44	6.73	+2.29	....
" 7	2260	1.009	3.52	....	....	....	0.99	0.99	....	....	4.51	7.18	+2.67	....
" 8	2290	1.008	3.39	....	....	....	0.99	0.99	....	....	4.38	6.57	+2.19	....
" 9	2200	1.010	3.07	....	....	....	0.99	0.99	....	....	4.06	6.37	+2.31	....
" 10	2120	1.009	3.47	....	....	....	0.99	0.99	....	....	4.46	7.37	+2.91	....
" 11	2450	1.008	3.74	....	....	....	0.99	0.99	....	....	4.73	6.66	+1.93	....
<b>Total.....</b>	....	....	<b>24.12</b>	....	....	....	<b>6.93</b>	....	....	....	<b>31.05</b>	<b>47.80</b>	<b>+16.75</b>	<b>39.15</b>
<b>Average.....</b>	....	....	<b>3.45</b>	....	....	....	....	....	....	....	<b>4.436</b>	<b>6.83</b>	<b>+2.39</b>	<b>39.15</b>

## BALANCE FOR PERIOD

Patient's average weight.....	39.15 kgs.
Calories per kg. of body weight.....	46.4
Nitrogen in food.....	47.80 gms.
Nitrogen in urine.....	24.12
Nitrogen in feces.....	6.93
Total nitrogen excreted.....	31.05
Nitrogen balance.....	<b>+16.75</b>

## PATIENT NO. 3. MISS B. L. PERIOD XII

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	153.5	1.68	2.58	404	Rice pudding.....	100	0.315	0.35	182
Butter.....	39	0.12	0.05	292	Asparagus soup.....	150	0.132	0.20	...
Cream.....	125	0.198	0.02	236	Potato salad.....	75	0.338	0.25	67
Coffee.....	125	0.018	0.06	...	Pear.....	151	0.096	0.15	86
Tea.....	250	0.015	0.037	...	Orange.....	116	0.128	0.15	53
Quinal.....	25	2.48	0.02	98	Lettuce.....	27.5	0.192	0.05	5
Cauliflower.....	50	0.405	0.20	15	Figs.....	57	0.32	0.18	161
Beets.....	52	0.146	0.08	19					
Macaroni.....	150	0.565	0.85	133	<b>Total.....</b>			<b>6.427</b>	<b>1751</b>

## Analysis of Urine and Feces

Date	Vol- ume	Specific Gravity	Total Nitrogen	Per Cent of Total Primary Nitrogen				Daily Nitrogen Balance			
				Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Undeter- mined Nitrogen	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913											
Feb. 12	2080	1.010	3.52	2.58	0.32	...	...	4.06	6.43	2.37	...
" 13	1950	1.011	3.48	2.63	0.32	...	...	4.02	6.53	2.51	...
" 14	2240	1.007	4.32	3.11	0.33	...	...	4.86	7.18	2.32	...
" 15	2260	1.009	4.11	3.00	0.34	...	...	4.68	6.92	2.21	...
" 16	2355	1.008	4.09	2.91	0.37	...	...	1.63	6.98	2.35	...
" 17	2200	1.010	3.85	2.73	0.43	...	...	1.39	7.70	3.31	...
" 18	2095	1.012	4.08	2.96	0.41	...	...	4.62	6.97	2.35	...
<b>Total.....</b>			<b>27.48</b>	<b>19.95</b>	<b>2.52</b>	<b>3.77</b>	<b>...</b>	<b>31.25</b>	<b>48.71</b>	<b>17.46</b>	<b>...</b>
<b>Average.....</b>			<b>3.92</b>	<b>2.85</b>	<b>0.36</b>	<b>...</b>	<b>...</b>	<b>4.46</b>	<b>6.96</b>	<b>2.49</b>	<b>39.60</b>

## BALANCE FOR PERIOD

Patient's average weight.....	39.60 kgs.
Calories per kg. of body weight.....	11.2
Nitrogen in food.....	18.71 gms.
Nitrogen in urine.....	27.48
Nitrogen in feces.....	3.77
Total nitrogen excreted.....	31.25
Nitrogen balance.....	-17.46 gms.

## ANALYSIS OF PERSPIRATION

Feb. 12 to 14 perspiration collected.....	0.101 gm. nitrogen
Feb. 15 to 18, " " " " " "	0.301 " "
<b>Total nitrogen eliminated in perspiration =</b>	<b>0.708 gms.</b>

## PATIENT NO. 3. MISS B. L. PERIOD XIII

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	150.5	1.60	2.40	396	Potato salad.....	100	0.343	0.34	91
Butter.....	39.0	0.12	0.05	292	Pea croquette.....	147	1.16	1.71	159
Milk.....	125.0	0.527	0.66	85	Tea.....	250	0.015	0.037	..
Coffee.....	125.0	0.048	0.06	..	Pear.....	139	0.096	0.13	78
Oatmeal.....	25	2.48	0.62	98	Orange.....	133.5	0.128	0.17	61
Spinach.....	50	0.553	0.28	26	Figs.....	64	0.32	0.21	181
Carrots.....	50	0.243	0.12	22	Pineapple.....	150	0.07	0.11	66
Potato cake.....	200	0.465	0.93	182					
Rice soup.....	150	0.091	0.14	..	Total.....	..	..	7.967	1737

Date	Vol- ume	Specific Gravity	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance						
			Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																			
Feb. 19	2450	1.010	3.98	2.85	0.38	0.130	0.234	0.39	71.7	9.6	3.3	5.9	9.8	5.49	7.97	+2.48	.....		
" 20	2385	1.009	4.11	3.18	0.36	0.119	0.175	0.28	77.4	8.7	2.9	4.3	6.8	5.62	7.51	+1.89	.....		
" 21	2180	1.009	4.21	3.14	0.28	0.082	0.181	0.53	100	74.6	6.6	4.3	12.6	5.72	7.74	+2.02	.....		
" 22	2200	1.012	3.90	2.87	0.42	0.093	0.190	0.33	100	73.5	10.8	4.9	8.5	5.41	7.47	+2.06	.....		
" 23	2320	1.009	3.97	2.80	0.30	0.104	0.169	0.60	100	70.5	7.6	2.6	15.1	5.48	7.45	+1.97	.....		
" 24	2255	1.012	4.21	2.96	0.31	0.124	0.164	0.62	100	70.3	8.0	3.9	14.3	5.72	7.46	+1.74	.....		
" 25	1950	1.012	4.04	2.69	0.34	0.118	0.171	0.72	100	66.5	8.5	4.2	17.4	5.55	7.70	+2.15	.....		
Total.....			28.42	20.49	2.42	0.762	1.285	3.47	.....	.....	.....	.....	.....	38.99	53.30	+14.31	.....	.....	.....
Average.....			4.06	2.93	0.35	0.109	0.183	0.496	72.1	8.53	2.73	4.53	12.2	5.57	7.61	+2.04	.....	.....	39.65

## BALANCE FOR PERIOD:

Patient's average weight.....	39.65 kgs.
Calories per kg. of body weight.....	43.9
Nitrogen in food.....	53.30 grms.
Nitrogen in urine.....	28.42
Nitrogen in feces.....	10.57
Total nitrogen excreted.....	38.99
Nitrogen balance.....	+14.31 grms.

## PATIENT NO. 3. MISS B. L. PERIOD XIV

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	154	1.69	2.61	405	Cornstarch pudding.....	100	0.106	0.11	157
Butter.....	40.5	0.12	0.05	301	Rice croquette.....	200	0.486	0.97	222
Milk.....	125	0.500	0.63	85	Cream sauce.....	12	0.123	0.01	..
Coffee.....	125	0.048	0.06	...	Orange.....	104.5	0.128	0.13	48
Tea.....	250	0.015	0.037	...	Fruit salad.....	100	0.07	0.07	..
Oatmeal.....	25	0.248	0.62	98	Apricot.....	125	0.08	0.10	81
Rice.....	150	0.100	0.15	136	Mayonnaise.....	10	0.678	0.07	...
Fried potatoes.....	150	0.635	0.95	18	Lettuce.....	18	0.192	0.03	...
Beets.....	50	0.182	0.09	15	<b>Total.....</b>	.....	.....	<b>6.867</b>	<b>1569</b>
Cauliflower.....	50	0.362	0.18	15					

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Urea N	Am- monia N	Uric-Acid N	Creatinin N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913														
Feb. 26	2580	1.010	4.59	3.15	0.33	0.120	68.6	7.0	2.6	3.7	5.61	6.87	+1.26	.....
" 27	2200	1.011	4.52	3.12	0.33	0.137	69.4	7.3	3.0	3.8	5.54	7.01	+1.47	.....
" 28	1740	1.015	5.11	3.70	0.32	0.120	72.0	6.3	2.3	3.3	6.16	6.78	+0.62	.....
Mar. 1	1130	1.018	5.16	3.35	0.38	0.108	65.0	7.3	2.1	3.6	6.18	6.46	+0.28	.....
" 2	1230	1.017	5.22	3.22	0.50	0.104	61.7	9.6	2.0	3.8	6.24	7.17	+0.93	.....
" 3	1200	1.016	3.94	2.56	0.42	0.112	65.0	10.5	2.8	4.1	4.96	6.55	+1.59	.....
" 4	No analysis													.....
Total.....	28.57	19.10	2.28	0.701	1.074	5.42	66.9	8.0	.....	.....	31.69	40.84	+6.15	.....
Average.....	.....	.....	4.76	3.18	0.38	0.117	.....	.....	2.48	3.8	5.78	6.81	+1.03	.....

## BALANCE FOR PERIOD

Patient's average weight.....	
Calories per kg. of body weight.....	40.84
Nitrogen in food.....	28.57
Nitrogen in urine.....	6.12
Total nitrogen in feces.....	31.69
Nitrogen balance.....	+6.15 gms.

## PATIENT NO. 3. MISS B. L. PERIOD XV

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	149	1.76	2.62	391	Lima-bean soup.....	100	0.736	0.74	51
Milk.....	1000	0.483	4.83	680	Green peas.....	50	0.798	0.39	281
Butter.....	15.5	0.15	0.02	116	Steak.....	97	5.33	5.17	45
Coffee.....	125	0.048	0.06	...	Orange.....	98.5	0.128	0.13	137
Tea.....	250	0.015	0.037	151	Corned beef.....	100	5.92	2.96	57
Eggs.....	101	2.18	2.20	215	Apple sauce.....	92	0.034	0.03	66
Cheese.....	52	2.19	1.14	88	Prunes.....	...	0.08	0.07	...
Crackers.....	21	1.16	0.24	...	<b>Total.....</b>	...	...	<b>20.64</b>	<b>2287</b>

## Analysis of Urine and Feces

Date	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Uric-Acid Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																	
Mar. 10	1660	1.015	9.49	.....	.....	.....	.....	1.65	.....	.....	.....	.....	.....	11.14	20.61	+9.50	.....
" 11	2150	1.014	12.17	.....	.....	.....	.....	1.65	.....	.....	.....	.....	.....	13.82	20.40	+6.58	.....
" 12	1930	1.016	12.37	.....	.....	.....	.....	1.65	.....	.....	.....	.....	.....	14.02	21.19	+7.17	.....
" 13	2225	1.014	13.82	.....	.....	.....	.....	1.65	.....	.....	.....	.....	.....	15.47	21.61	+6.17	.....
" 14	1760	1.015	14.41	.....	.....	.....	.....	1.65	.....	.....	.....	.....	.....	16.05	22.80	+6.75	.....
" 15	1840	1.018	16.14	.....	.....	.....	.....	1.65	.....	.....	.....	.....	.....	17.79	21.84	+4.05	.....
" 16	2065	1.017	16.05	.....	.....	.....	.....	1.61	.....	.....	.....	.....	.....	17.69	22.26	+4.57	.....
Total.....	.....	.....	94.45	83.57 (	Includ.	1.280	1.45	8.15	100	88.6 (	Includ.	.....	.....	105.99	150.77	+44.78	.....
Average.....	.....	.....	13.49	11.94 (	in urea	0.183	0.207	1.164	.....	.....	in urea	1.4	1.5	15.14	21.54	+ 6.40	.....

## BALANCE FOR PERIOD

Patient's average weight.....	
Calories per kg. of body weight.....	150.77 gms
Nitrogen in food.....	94.45
Nitrogen in urine.....	11.54
Nitrogen in feces.....	105.99
Total nitrogen excreted.....	+44.78 gms.
Nitrogen balance.....	

## PATIENT NO. 3. MISS B. L. PERIOD XVI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	152.5	1.78	2.73	401	Green pea soup.....	100	0.48	0.48	
Butter.....	13.5	0.015	0.02	101	Beets.....	50	0.132	0.07	18
Milk.....	1000	0.480	4.80	680	Meat.....	100	4.97	4.97	270
Coffee.....	125	0.018	0.06	...	Grapefruit.....	192.5	0.13	0.25	88
Tea.....	250	0.015	0.037	...	Corned beef.....	75	6.33	4.75	266
Eggs.....	98	2.18	2.14	149	Apple sauce.....	100	0.031	0.03	57
Cheese.....	50	2.19	1.10	207					
Crackers.....	21	1.16	0.24	88	Total.....	.....	.....	21.68	2265

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen Excreted in Urine & Feces	Nitrogen in Food	N Balance	Body Weight			
1913															
Mar. 17	2360	1.013	15.38	.....	.....	.....	.....	.....	17.01	21.68	+4.64	.....			
" 18	2100	1.012	15.54	.....	.....	.....	.....	.....	17.20	22.38	+5.18	.....			
" 19	1980	1.015	15.88	.....	.....	.....	.....	.....	17.54	21.51	+4.00	.....			
" 20	2385	1.012	16.16	.....	.....	.....	.....	.....	17.82	23.16	+5.61	.....			
" 21	1600	1.019	15.58	.....	.....	.....	.....	.....	17.21	21.40	+3.16	.....			
" 22	2200	1.018	16.14	.....	.....	.....	.....	.....	17.80	21.76	+3.96	.....			
" 23	1810	1.016	16.35	.....	.....	.....	.....	.....	18.01	21.30	+3.26	.....			
Total.....			111.03	98.16	Includ. in urea	1.24	1.69	9.94	122.68	153.52	+30.84	.....			
Average.....			15.86	14.02	.....	0.178	0.241	1.42	17.53	21.93	+4.40	41.6			

## BALANCE FOR PERIOD

Patient's average weight.....	41.6 kgs.
Calories per kg. of body weight.....	54.5
Nitrogen in food.....	153.52 gms.
Nitrogen in urine.....	111.03
Nitrogen in feces.....	11.65
Total nitrogen excreted.....	122.68
Nitrogen balance.....	+30.84 gms.

## PATIENT NO. 3. MISS B. L. PERIOD XVII

Date	Vol- ume	Specific Gravity	Analysis of Urine and Feces			Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
			Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Unde- rmined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Uric-Acid N	Unde- rmined N	Nitrogen Excreted in Urine & Feces	Body Weight
Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	
Bread.....	151	1.76	2.66	397	Carrots.....	51	0.180	0.09	22						
Butter.....	11.5	0.15	0.02	109	Meat.....	101	5.26	5.31	273						
Milk.....	1000	0.175	4.75	680	Apples.....	100.5	0.08	0.08	65						
Coffee.....	125	0.048	0.06	...	Roast beef.....	75.5	6.14	4.64	234						
Tea.....	250	0.015	0.037	...	Cheese.....	51.5	2.13	2.13	93						
Eggs.....	34	2.18	2.55	144	Crackers.....	22	1.16	0.26	...						
Grapefruit.....	190.5	0.130	0.25	88	Total.....	.....	.....	21.93	2319						
Lima-bean soup.....	100	0.589	0.59	...											

## BALANCE FOR PERIOD

Patient's average weight.....	42.0 kgs.
Calories per kg. of body weight.....	55.2
Nitrogen in food.....	150.79 gms.
Nitrogen in urine.....	121.31
Nitrogen in feces.....	12.93
Total nitrogen excreted.....	134.24
Nitrogen balance.....	+16.55 gms.





## PATIENT NO. 3. MISS B. L. PERIOD XIX

Kind of Food April 7	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food April 12	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	151.5	1.68	2.55	398	Bread.....	151	1.68	2.53	397
Butter.....	13.5	0.15	0.20	101	Butter.....	39	0.15	0.06	292
Milk.....	1500	0.48	7.20	1020	Milk.....	100	0.48	0.06	68
Coffee.....	125	0.018	0.06	...	Coffee.....	125	0.048	0.06	...
Tea.....	250	0.015	0.037	...	Tea.....	250	0.015	0.04	...
Eggs.....	103	2.18	2.21	157	Grapefruit.....	163	0.130	0.21	75
Orange.....	140.5	0.128	0.18	65	Baked beans.....	50	1.29	0.65	62
Meat.....	126	4.95	6.24	340	Apple sauce.....	100	0.034	0.03	57
Apricots.....	100	0.08	0.08	69	Potato cake.....	200	0.337	0.67	182
Roast beef.....	75	5.63	4.22	232	Macaroni.....	100	0.513	0.51	89
Crackers.....	21.5	12.16	3.25	91	Cornstarch.....	100	0.177	0.18	157
Plasmon.....	30	12.81	3.84	120	Potato salad.....	75	0.22	0.22	68
Cheese.....	50.5	2.30	1.16	209					
<b>Total.....</b>			<b>28.077</b>	<b>2802</b>	<b>Total.....</b>			<b>5.64</b>	<b>1447</b>

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance		
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N
1913 April 7	2130	1.018	19.80	...	...	...	...	...	...	...	...	...	...
" 8	2265	1.018	22.40	...	...	...	...	...	...	...	...	...	...
" 9	2080	1.019	21.60	...	...	...	...	...	...	...	...	...	...
" 10	2420	1.017	23.85	...	...	...	...	...	...	...	...	...	...
" 11	1990	1.019	21.78	...	...	...	...	...	...	...	...	...	...
" 12	1590	1.015	11.15	...	...	...	...	...	...	...	...	...	...
" 13	1490	1.014	7.63	...	...	...	...	...	...	...	...	...	...
" 14	1535	1.012	6.25	...	...	...	...	...	...	...	...	...	...
" 15	1460	1.010	6.23	...	...	...	...	...	...	...	...	...	...
" 16	1010	1.016	5.29	...	...	...	...	...	...	...	...	...	...
<b>Total.....</b>			<b>145.98</b>									<b>170.86</b>	<b>+10.62</b>

## BALANCE FOR PERIOD

Patient's average weight.....	
Calories per kg. of body weight.....	
Nitrogen in food.....	170.86 gms.
Nitrogen in urine.....	145.98
Nitrogen in feces.....	14.26
Total nitrogen excreted.....	160.24
Nitrogen balance.....	+10.62 gms.

## CONTROL, MISS W. PERIOD I

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	151.5	1.60	2.40	398	Potato salad.....	100	0.343	0.34	91
Butter.....	40	0.12	0.05	300	Pea croquette.....	157	1.16	1.82	169
Milk.....	125	0.527	0.66	85	Tea.....	250	0.015	0.04	71
Coffee.....	125	0.048	0.06	99	Pears.....	127	0.096	0.12	45
Oatmeal.....	25	2.48	0.62	26	Orange.....	97	0.128	0.12	175
Spinach.....	50	0.553	0.28	22	Figs.....	61.5	0.32	0.20	66
Carrots.....	50	0.213	0.12	22	Pineapple.....	150	0.07	0.11	1725
Potato cake.....	200	0.465	0.93	182					
Rice soup.....	150	0.091	0.14	...	Total.....	.....	.....	8.01	1725

Date	Analysis of Urine and Feces										Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
	Urine					Feces					Urea		Ammonia		Uric-Acid		Creatinin	
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total Nitrogen	Urea N	Am- monia N	Uric-Acid N	Creatinin N	Undeter- mined N	Nitrogen excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																		
Feb. 19	2080	1.017	12.38	10.36	0.68	0.124	0.408	0.81	100	83.6	5.5	1.0	3.3	6.55	14.16	8.01	-6.15	60.6
" 20	1910	1.010	6.98	5.85	0.33	0.103	0.269	0.43	100	81.9	4.7	1.5	3.3	6.2	8.76	7.31	-1.45	60.7
" 21	1970	1.013	6.23	5.07	0.28	0.069	0.322	0.49	100	81.4	4.5	1.1	5.2	7.9	8.01	7.73	-0.28	60.8
" 22	1590	1.015	5.42	4.29	0.32	0.071	0.339	0.40	100	79.2	5.9	1.3	6.2	7.4	7.20	7.27	+0.07	60.1
" 23	1320	1.017	4.88	3.96	0.25	0.086	0.324	0.26	100	81.2	5.2	1.7	5.9	5.3	6.66	7.42	+0.76	59.9
" 24	1760	1.014	5.38	4.61	0.24	0.086	0.319	0.13	100	85.7	4.5	1.6	5.9	2.3	7.16	7.26	+0.10	59.6
" 25	2140	1.014	6.28	4.94	0.29	0.100	0.320	0.61	100	78.7	4.7	1.6	5.1	9.7	8.04	7.63	-0.41	59.8
Total.....	47.55	.....	6.79	39.08	2.39	0.639	2.301	3.13	100	82.2	5.0	1.3	4.9	6.6	59.99	52.63	-7.36	60.2
Average.....	.....	.....	.....	5.58	0.34	0.091	0.329	0.45	.....	.....	.....	.....	.....	.....	8.57	7.52	-1.05	.....

## BALANCE FOR PERIOD

Patient's average weight.....	60.2 kgs.
Calories per kg. of body weight.....	28.75
Nitrogen in food.....	52.63 gms.
Nitrogen in urine.....	47.55
Nitrogen in feces.....	12.44
Total nitrogen excreted.....	59.99
Nitrogen balance.....	-7.36 gms.

CONTROL. MISS W. PERIOD II

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	152	1.69	2.57	400	Cornstarch pudding.....	100	0.106	0.11	57
Butter.....	40	0.12	0.05	300	Rice croquette.....	200	0.486	0.97	222
Milk.....	125	0.500	0.63	85	Cream sauce.....	192	0.123	0.01	48
Coffee.....	125	0.048	0.06	...	Orange.....	105.5	0.128	0.13	...
Tea.....	250	0.015	0.01	...	Fruit salad.....	100	0.07	0.07	73
Oatmeal.....	25	2.48	0.62	99	Apricots.....	113	0.08	0.09	...
Rice soup.....	150	0.100	0.15	136	Mayonnaise.....	10	0.678	0.07	...
Fried potatoes.....	150	0.635	0.95	18	Lettuce.....	16	0.132	0.03	...
Beets.....	50	0.182	0.09	15					
Cauliflower.....	50	0.362	0.18	...					
					<b>Total.....</b>			<b>6.82</b>	<b>1453</b>

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N
1913															
Feb. 26	2350	1.011	6.24	4.82	0.27	0.092	0.323	0.74	0.92	100	77.2	4.3	1.5	5.2	11.8
" 27	1570	1.013	5.84	4.61	0.26	0.096	0.314	0.57	0.92	100	78.9	4.4	1.6	5.4	9.7
" 28	1865	1.012	6.42	4.85	0.26	0.086	0.351	0.88	0.92	100	75.5	4.2	1.3	5.5	13.7
Mar. 1	1165	1.024	6.31	4.81	0.23	0.120	0.320	0.83	0.92	100	76.2	3.7	1.9	5.1	13.1
" 2	1990	1.012	6.80	5.14	0.31	0.101	0.310	0.94	0.92	100	75.6	4.6	1.5	4.6	13.8
" 3	1360	1.018	5.63	4.04	0.27	0.069	0.315	0.67	0.90	100	75.4	5.0	1.3	5.9	12.4
" 4															
Total			36.97	28.27	1.60	0.563	1.933	4.59	5.50	100	76.4	4.4	1.5	5.2	12.5
Average			6.16	4.71	0.27	0.094	0.322	0.77	...	...	...	...	...	...	...

BALANCE FOR PERIOD

Patient's average weight.....	60.0	kgs.
Calories per kg. of body weight.....	24.24	
Nitrogen in food.....	41.73	gms.
Nitrogen in urine.....	36.97	
Nitrogen in feces.....	5.50	
Total nitrogen excreted.....	42.47	
Nitrogen balance.....	-0.74	gms.

From then on, under a prolonged low nitrogen dietary, the patient continuously improved, until, on discharge from the hospital, but a bare vestige of the eruption remained in a few isolated areas (Fig. 2). Curiously, a band-like streak of eruption (Fig. 4) on the left buttock and thigh, persisted for several months after the eruption had practically disappeared elsewhere. Under the continuance of the diet prescribed after the discharge of the patient, this band practically faded away.

While the trunk in Fig. 1 exhibits a very superficial type of the disease, there were large, thickened and intensely hyperemic patches on the extremities.

During the last few weeks of the patient's hospital sojourn, she was placed upon an increased nitrogen diet, without any material aggravation of the eruption; at this time, however, although she still retained nitrogen, the amount of retention was less than during any previous period of high nitrogen diet.

These patches all disappeared without the use of any active medicament. Vaseline was used on the eruption to alleviate the excessive dryness and tension, which gave rise to the keenest distress to the patient. No other local treatment and no internal treatment was employed whatsoever.

#### PATIENT NO. 4.

N. N.; male, age, 33; born in Russia.

He does not recall the diseases of early life. He served four years in the Russian Army, during which time he suffered an attack of jaundice lasting five weeks. He never had rheumatism. No history of psoriasis in parents or any other member of the family.

**PRESENT CONDITION.** The patient is short and thick set; height, 5 feet 6 inches; weight 143 pounds. The first attack of psoriasis was experienced seven years ago; he has suffered pretty constantly with more or less eruption since then.

The patient was admitted to the Polyclinic Hospital on Dec. 26, 1912. On admission, he exhibited extensive figurate psoriasis covering a considerable portion of the cutaneous surface. (Figs. 5 and 7). The scalp was markedly involved and a broad band of eruption extended to a depth of one inch around the frontal border of the hair. The eyebrows and mustache were also the seat of eruption. The chest and abdomen exhibited huge, diffuse patches covering about two thirds of the surface. The back, from the nape of the neck to the sacrum, was almost completely covered by a huge, single, unbroken patch. The only free areas were the right scapular region, the left shoulder and the lateral aspects of the lumbar region. The patient complained of tenseness and impaired suppleness of the skin, which caused pain and bleeding. The patches were of a deep-red color, palpably elevated and covered with a moderately thick layer of scales.

The arms and legs were beset with a number of psoriasis plaques, varying in diameter from a pea to the palm of the hand. The nails, both of the hands and feet, were severely affected, showing marked subungual thickening and pronounced pittings. Under a low protein diet the patches gradually lost their infiltration and subsided to the level of the skin.

The patient was under the necessity of supporting his family and was able to remain only a limited period of time in the hospital (seven weeks). He was discharged on Feb. 13, 1913.

Under the use of a chrysarobin ointment, 20 grains to the ounce of vaseline, applied two weeks before his discharge, the eruption rapidly improved and, without any interruption, progressed to the point of disappearance.

Examined on March 30, 1913, the entire surface of the face, scalp, trunk, arms and legs was free of the eruption, save for a few ill-defined and superficial, scaly areas on the sacrum and legs. The nails exhibit a marvelous improvement, having lost their thickening and showing, in their new proximal portion, healthy nail tissue.

No treatment was applied to the scalp; no internal treatment whatsoever was employed. The patient after discharge from the hospital faithfully continued the diet prescribed for him.

On January 1, 1913, the patient was placed on a diet consisting of a little more than 7 grams of nitrogen per day. The total amount of nitrogen ingested during Period 1 (8 days) was 67.72 grams. The amount of nitrogen eliminated in the urine and faeces was 62.41 grams, resulting in a positive balance of 5.31 grams. During the period, 9.5 grams of scales were exfoliated from the skin, 11.19% of which was nitrogen, equalling 1.06 grams which has to be subtracted, leaving a net gain to the body of 4.25 grams. The patient's average weight for the period was 64.9 kg. The caloric value of the food was about 1800 calories, or about 28 calories per kg. of body weight.

On January 6th, 20 grams of urea, containing 9.33 grams of nitrogen, were added to the diet. Of this, 8.2 grams were recovered during the days of January 6th and 7th.

In Period 2, the patient was placed on a diet consisting on an average of 27.06 grams of nitrogen per day, with a caloric value of 2670 per day, or 41.2 per kg. The total amount of nitrogen ingested in the period was 162.37 grams. The amount eliminated in the urine and faeces was 105.48 grams; 3.5 grams of scales were collected, containing 0.39 gram of nitrogen, which leaves a net retention of 56.50 grams of nitrogen. The average weight of the patient for the period was 64.8 kg.—a loss of 0.1 gram.

Here, we have a tremendous retention of nitrogen, corresponding to 353 grams of pure protein, while the patient is on a rich caloric supply, without any gain in body weight. This is very remarkable, for the same observation was made in Patient 3, Period 7.

In Period 3, the patient was kept on approximately the same diet, receiving 194.77 grams of nitrogen (an average of 27.82 grams per day) and about 2800 calories per day. The amount of nitrogen eliminated in the urine and faeces was 147.62 grams. In 3 grams of scales there were found 0.34 gram of nitrogen. This leaves a posi-

PLATE XXX.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 6.  
Research patient No. 4, Mr. N. N.  
External treatment was used in conjunction with  
dietary measures, as the patient was obliged to leave the  
hospital.



Fig. 5.  
Research patient No. 4, Mr. N. N.





PLATE XXXI.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 5.  
Research patient No. 1, Mr. N. N.  
External treatment was used in conjunction with  
dietary measures, as the patient was obliged to leave the  
hospital.



Fig. 7.  
Research patient No. 1, Mr. N. N.



## PATIENT NO. 4. MR. N. PERIOD I

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	155.5	1.45	2.25	409	Fried potatoes.....	203	0.586	1.19	185
Butter.....	33	0.12	0.04	247	Oatmeal.....	25	2.48	0.62	98
Milk.....	175	0.525	0.92	119	Apple sauce.....	100	0.032	0.03	57
Tea.....	250	0.015	0.04	...	Apple.....	159	0.064	0.08	91
Coffee.....	125	0.048	0.06	...	Jelly.....	30	0.08	0.02	79
Rice croquette.....	150	0.549	0.82	139	Crackers.....	10	1.45	0.14	42
Mashed potatoes.....	100	0.348	0.35	91	Total.....	.....	.....	6.69	1827
Carrots.....	50	0.105	0.05	22					
Cornstarch pudding.....	158	0.054	0.08	248					

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance		
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Urea N	Ammonia N	Uric-Acid N	Creatinin N	Undetermined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance
1913													
Jan. 1	1740	1.011	8.04	6.60	0.44	0.152	0.423	0.138	0.70	0.73	100	82.1	17.9
" 2	1610	1.013	6.45	4.82	0.35	0.141	0.438	0.139	0.69	0.73	100	71.7	28.3
" 3	2415	1.010	6.60	5.04	0.32	0.139	0.418	0.118	0.69	0.73	100	76.4	23.6
" 4	2145	1.009	5.39	4.01	0.32	0.095	0.418	0.118	0.69	0.73	100	71.4	28.6
" 5	1750	1.013	5.44	3.87	0.32	0.131	0.423	0.131	0.68	0.73	100	71.1	28.9
" 6	3145	1.010	12.78	11.26	0.27	0.128	0.441	0.128	0.68	0.73	100	88.4	11.4
" 7	2080	1.010	6.35	5.22	0.28	0.128	0.441	0.128	0.68	0.73	100	82.1	17.9
" 8	2170	1.011	5.51	4.17	0.28	0.128	0.441	0.128	0.68	0.73	100	75.2	24.8
Total.....			56.59										
Average													

120.0 gms. of urea added to diet = 9.33 gms. of nitrogen. Of this 8.25 gms. were recovered in the urines of Jan. 6 and 7.

## BALANCE FOR PERIOD

Patient's average weight.....	61.9	kgs.
Calories per kg. of body weight.....	28.2	
Nitrogen in food.....	67.72	gms.
Nitrogen in urine.....	56.59	
Nitrogen in feces.....	5.82	
Total nitrogen excreted.....	62.41	
Nitrogen balance.....	+5.31	gms.

## ANALYSIS OF SCALES

Weight.....	9.5	
Per Cent of Nitrogen.....	11.19	
Total Nitrogen.....	1.06	gms.



## PATIENT NO. 4. MR. N. PERIOD III

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	300	1.63	789	Crackers.....	9.5	1.40	0.13	40
Butter.....	21	0.12	180	Meat.....	125.8	5.22	6.56	340
Milk.....	1000	0.515	680	Roast beef.....	75.0	5.87	4.40	232
Tea.....	250	0.015	0.04	Plasmon.....	10	11.78	1.18	40
Coffee.....	125	0.048	0.06	Grapefruit.....	131	0.13	0.17	62
Eggs.....	107.5	2.19	2.35	Apricots.....	100	0.08	0.08	65
Soup.....	150	0.339	0.51	Lettuce.....	35	0.192	0.07	6
Swiss cheese.....	50	4.61	2.30					
				<b>Total.....</b>			<b>27.92</b>	<b>2819</b>

Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
Date	Volume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Uric Acid Nitrogen	Undetermined Nitrogen	Total Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Uric Acid Nitrogen
1913											
Jan. 15	2320	1.016	20.45	.....	.....	.....	.....	.....	.....	.....	.....
" 16	2205	1.016	20.90	.....	.....	.....	.....	.....	.....	.....	.....
" 17	2295	1.017	20.11	.....	.....	.....	.....	.....	.....	.....	.....
" 18	1980	1.019	19.96	.....	.....	.....	.....	.....	.....	.....	.....
" 19	2280	1.016	20.23	.....	.....	.....	.....	.....	.....	.....	.....
" 20	1990	1.016	19.81	.....	.....	.....	.....	.....	.....	.....	.....
" 21	2315	1.015	20.41	.....	.....	.....	.....	.....	.....	.....	.....
<b>Total.....</b>			<b>140.97</b>								
<b>Average.....</b>			<b>20.14</b>								

## BALANCE FOR PERIOD

Patient's average weight.....	65.8 kgs.
Calories per kg. of body weight.....	42.9
Nitrogen in food.....	191.77 gms.
Nitrogen in urine.....	140.97
Nitrogen in feces.....	6.65
Total nitrogen excreted.....	147.62
Nitrogen balance.....	+47.15 gms.

## ANALYSIS OF SCALES

Weight.....	3.0
Per Cent of Nitrogen.....	11.19
Total Nitrogen.....	9.34 gms.

## PATIENT NO. 4. MR. N. PERIOD IV

Date	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
											Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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## PATIENT NO. 4. MR. N. PERIOD V

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	151.5	1.62	2.46	398	Baked potatoes.....	58	0.427	0.25	53
Butter.....	38.5	0.12	0.05	289	Macaroni.....	125	0.635	0.79	111
Milk.....	125	0.517	0.63	79	Pineapple.....	100	0.03	0.03	44
Tea.....	250	0.015	0.01	...	Rice cakes.....	196	0.650	1.27	218
Coffee.....	125	0.048	0.06	...	Apple.....	111	0.064	0.07	63
Oatmeal.....	25	2.48	0.62	99	Pears.....	163	0.096	0.16	91
Asparagus soup.....	150	0.177	0.27	...					
Spinach.....	51	0.610	0.31	26	<b>Total.....</b>	<b>.....</b>	<b>.....</b>	<b>7.01</b>	<b>1471</b>

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance							
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																	
Jan. 29	1980	1.012	4.71	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.79	7.01	+1.22	.....
" 30	1940	1.009	4.67	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.75	6.69	+0.94	.....
" 31	2435	1.006	4.52	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.60	6.98	+1.38	.....
Feb. 1	1920	1.011	4.40	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.48	6.93	+1.45	.....
" 2	2475	1.005	4.40	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.48	7.62	+2.14	.....
" 3	2190	1.008	4.44	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.52	7.04	+1.52	.....
" 4	1910	1.010	4.47	.....	.....	.....	.....	.....	1.08	.....	.....	.....	.....	5.55	7.39	+1.81	.....
Total.....			31.61	.....	.....	.....	.....	.....	7.56	.....	.....	.....	.....	39.17	49.66	+10.49	.....
Average.....			4.51	.....	.....	.....	.....	.....		.....	.....	.....	.....	5.59	7.69	+1.50	65.0

## BALANCE FOR PERIOD

Patient's average weight.....  
 Calories per kg. of body weight.....  
 Nitrogen in food.....  
 Nitrogen in urine.....  
 Nitrogen in feces.....  
 Total nitrogen excreted.....

Nitrogen balance.....  
 +10.49 gms.

## ANALYSIS OF SCALES

Weight  
 1.5  
 Per Cent of Nitrogen  
 11.19  
 Total Nitrogen  
 0.17 gms.

## PATIENT No. 4. MR. N. PERIOD VI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	150	1.83	2.74	395	Cauliflower.....	50	0.272	0.14	15
Butter.....	39	0.12	0.05	292	Cornstarch, pudding.....	148	0.062	0.09	233
Cream.....	125	0.417	0.52	236	Potato salad.....	99	0.359	0.36	90
Coffee.....	125	0.048	0.06	...	Pancakes.....	131	0.993	1.22	230
Tea.....	250	0.015	0.04	...	Grapes.....	121	0.208	0.25	104
Oatmeal.....	25	2.48	0.62	99	Grapefruit.....	134	0.13	0.17	62
Potato cake.....	251	0.383	0.97	228	Rice soup.....	150	0.046	0.07	...
Carrots.....	75	0.162	0.12	33	<b>Total.....</b>	.....	.....	<b>7.42</b>	<b>2017</b>

Analysis of Urine and Feces										Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
Date	Volume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undetermined Nitrogen	Nitrogen in Feces	Total N	Urea N	Ammonia N	Creatinin N	Uric Acid N	Undetermined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																			
Feb. 5	2425	1.007	4.42	.....	.....	.....	.....	.....	1.52	.....	.....	.....	.....	.....	.....	5.94	7.42	+1.48	.....
" 6	2610	1.009	4.41	.....	.....	.....	.....	.....	1.52	.....	.....	.....	.....	.....	.....	5.93	7.51	+1.58	.....
" 7	1520	1.013	3.93	.....	.....	.....	.....	.....	1.52	.....	.....	.....	.....	.....	.....	5.45	7.97	+2.52	.....
" 8	2280	1.009	4.63	.....	.....	.....	.....	.....	1.52	.....	.....	.....	.....	.....	.....	6.15	7.23	+1.08	.....
" 9	1920	1.010	3.71	.....	.....	.....	.....	.....	1.52	.....	.....	.....	.....	.....	.....	5.23	7.20	+1.97	.....
" 10	2230	1.009	4.58	.....	.....	.....	.....	.....	1.52	.....	.....	.....	.....	.....	.....	6.10	8.20	+2.10	.....
" 11	2420	1.010	4.57	.....	.....	.....	.....	.....	1.51	.....	.....	.....	.....	.....	.....	6.11	7.10	+0.99	.....
<b>Total.....</b>	.....	.....	<b>30.25</b>	.....	.....	.....	.....	.....	<b>10.66</b>	.....	.....	.....	.....	.....	.....	<b>40.91</b>	<b>52.63</b>	<b>+11.72</b>	.....
<b>Average.....</b>	.....	.....	<b>4.32</b>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	<b>5.84</b>	<b>7.52</b>	<b>+1.67</b>	<b>64.7</b>

## BALANCE FOR PERIOD

Patient's average weight.....	64.7 kgs.
Calories per kg. of body weight.....	31.2
Nitrogen in food.....	52.63 gms.
Nitrogen in urine.....	30.25
Nitrogen in feces.....	10.66
Total nitrogen excreted.....	40.91
Nitrogen balance.....	+11.72 gms.



tive nitrogen balance of 46.81 grams. The patient's average weight was 65.8 kg.—a gain of 1.0 kg.

In Period 4, the nitrogen in the diet was reduced to an average of 7.04 grams per day. In this case the change in diet from high to low protein caused a negative nitrogen balance which persisted for about 3 days. Beginning with the fourth day, the nitrogen balance became positive and remained so until the end of the investigation. The total amount of nitrogen ingested during the course of the week was 49.27 grams. The amount eliminated in the urine and feces was 51.51 grams and 0.25 gram was found in the 2.2 grams of scales which were collected during the period. This leaves a net loss to the body of 2.49 grams. The average body weight was 65.4 kg.—a loss of 0.4 kg.

In Period 5, the diet given contained the same amount of nitrogen as did the diet in the preceding period, but with a lower caloric supply, namely, 1471 calories per day, or 22.7 per kg. The amount of nitrogen ingested was 49.66 grams. In the urine and feces, 39.17 grams were eliminated and 0.17 gram in the scales. This leaves a retention of 10.32 grams. The patient's average weight was 65.0 kg., a loss of 0.4 kg.

In Period 6, the diet was the same as regards its nitrogen content, but it was of a higher caloric value, 2017 calories per day, or 31.2 per kg. The total amount of nitrogen ingested was 52.63 grams. The amount eliminated in the urine and feces was 40.91 grams, resulting in a positive nitrogen balance of 11.72 grams. The patient's average weight was 64.7 kg., a loss of 0.3 kg.

On February 11th the patient left the hospital.

#### SUMMARY OF THE RESULTS OBTAINED IN THE STUDY OF PATIENT No. 4.

The patient presented a case of psoriasis of more than ordinary severity. The results obtained in this case are in absolute agreement with those obtained with Patient No. 3. The patient presented some remarkable peculiarities in his protein metabolism; first, in being able to store nitrogen easily, even when receiving only 7 grams per day, with a caloric supply of only 22.7 grams per kg.; secondly, in being able to store tremendous quantities of nitrogen when on a high protein diet; and thirdly, in showing improvement in the condition of his skin when on a low protein diet (see table No. 3).

During his stay of 42 days in the hospital, the patient ingested 576.42 grams of nitrogen. He eliminated, in the urine and feces,

TABLE III  
PROTEIN METABOLISM OF PATIENT No. 4

Period	Date, 1913	No. of Days	Nitrogen in Urine	Nitrogen in Feces	Total N Excreted	Nitrogen in Food	N Balance	Patient's Weight Kg.	Calories per Day	Calories per Kg.	Calories per Sq. M. S.
I	Jan. 1-Jan. 8...	8	56.59	5.82	62.41	67.72	+ 5.31	64.9	1827	28.2	920
II	Jan. 9-Jan. 14...	6	102.02	3.46	105.48	162.37	+56.89	64.8	2670	41.2	1345
III	Jan. 15-Jan. 21...	7	140.97	6.65	147.62	194.77	+47.15	65.8	2819	42.9	1406
IV	Jan. 22-Jan. 28...	7	45.85	5.66	51.51	49.27	- 2.24	65.4	1957	30.0	980
V	Jan. 29-Feb. 4...	7	31.61	7.56	39.17	49.66	+10.49	65.0	1471	22.7	739
VI	Feb. 5 Feb. 11...	7	30.25	10.66	40.91	52.63	+11.72	61.7	2017	31.2	1018
	Total .....	42	407.29	39.81	447.10	576.42	+129.32	.....	.....	.....	.....

TABLE IV  
PROTEIN METABOLISM OF PATIENT No. 5

Period	Date, 1913	No. of Days	Nitrogen in Urine	Nitrogen in Feces	Total N Excreted	Nitrogen in Food	Nitrogen Balance	Patient's Weight Kg.	Calories per Day	Calories per Kg.	Calories per Sq. M. S.
I	Jan. 17-Jan. 21...	5	97.47	6.88	104.35	138.93	+34.58	70.2	2713	38.7	1296
II	Jan. 22-Jan. 28...	7	75.91	6.41	82.32	94.12	+11.80	69.4	2490	35.9	1199
III	Jan. 29-Feb. 4...	7	45.16	6.38	51.54	50.84	- 0.70	68.6	1603	23.4	778
IV	Feb. 5-Feb. 11...	7	35.99	7.16	43.16	24.18	+11.02	68.2	2109	30.9	1027
V	Feb. 12-Feb. 18...	7	36.96	8.17	45.13	37.88	+12.45	68.3	2610	38.2	1270
VI	Feb. 19-Feb. 25...	7	36.96	8.08	45.04	61.32	+16.28	67.9	2026	29.8	990
	Total .....	40	328.45	43.08	371.54	456.97	+86.83	.....	.....	.....	.....

447.10 grams. This leaves a positive balance of 129.32 grams. Severe as the case was, the amount of scaling was comparatively slight.

The following amounts of nitrogen were found in the collected scales for each of the periods:

Period 1.....	1.06 grams.
" 2.....	0.39 "
" 3.....	0.34 "
" 4.....	0.25 "
" 5.....	0.17 "
" 6.....	0.00 "

The total amount of nitrogen eliminated in the scales for the entire period of investigation was 2.21 grams. When we add to this the amount of nitrogen lost in the perspiration (assuming 0.3 gram per day, which equals 12.6 grams for the entire period) the total amount of nitrogen eliminated through the skin could not have exceeded 14.8 grams. As the positive balance over the urinary and faecal nitrogen amounted to 129.32 grams, on subtracting 14.8 grams, we find a net retention of 114.5 grams of nitrogen, an amount which is present in 716 grams of protein.

#### PATIENT No. 5.

H. B.; male; age, 47; born in the United States.

**FAMILY HISTORY.** His father died at the age of 73. For ten years he had a large ulcer in the groin. For four or five years prior to his death, he had a "generalized scaly eczema," so diagnosed by a well-known dermatologist. His mother is living and well at the age of 77. No other members of the family ever had any skin trouble.

**PREVIOUS HISTORY.** The patient has been married 22 years. His wife is living and well. The first pregnancy resulted in miscarriage. There are three children, all well and robust; the eldest is 19 years old. The patient had measles and scarlet fever in childhood. He had gastritis at the age of 19 and jaundice on several occasions. He is subject to "bilious attacks." He has been constipated for the past ten or twelve years. At the age of 20, he had a "chancroid," which lasted about four weeks and was treated with local applications only; he never had any manifestations suspicious of lues. In 1908, a boil-like lesion began below the left knee, which grew to a plaque about 2 inches in diameter and became elevated above the skin about  $\frac{1}{4}$  to  $\frac{1}{2}$  inch, with a papillomatous surface; a diagnosis of sarcoma was made. In 1910, an operation was performed to remove the growth, but it was found to extend too deep. A month later, the leg was amputated above the middle of the thigh. Enlarged glands developed seven months later (May 1911) in the left groin, and were excised; the wound failing to heal, a second operation was performed on the glands in July, 1911, with successful result. No microscopic examination of the growth appears to have been made.

**PRESENT DISEASE.** The patient first developed psoriasis 17 years ago, and has never been free from the eruption since then. He has usually had large areas

of the body covered. The eruption is worse in winter and usually better in summer.

The patient was admitted to the hospital on Jan. 16, 1913. On admission, he exhibited a most extensive eruption, covering the face, scalp, trunk and extremities. The face was in large part covered with superficial, reddish patches, particularly in the bearded region. The trunk, which is shown in Figs. 9 and 11, was the seat of extensive, irregular patches, which were considerably infiltrated and covered with heavy scales. The legs and arms were enveloped in extensive, thickened patches, which involved about two thirds of the area of the extremities.

The patient was on a high nitrogen diet for five days from the date of admission; during this period, the eruption on the face became distinctly worse: this was independently commented upon by the physician in attendance, by the nurse and by the patient's sister.

Later, the patient was placed upon a low nitrogen diet and kept upon this diet for the greater period of his hospital sojourn. The patient was discharged from the hospital on February 28, 1913. At this time a vast improvement was evident in the eruption. Large areas of the body had become pale and were relatively free of eruption. To properly appreciate the extent of improvement, attention is directed to Figs. 9, 10, 11, and 12. The interval elapsing between the taking of the photographs was about 70 days.

The scalp, which was very scaly on admission, cleared up without any remedial application whatsoever. The patient received no internal treatment and nothing was used locally except, occasionally, a little vaseline to relieve the excessive dryness and tension.

On February 25th, owing to a positive Wassermann reaction, an intravenous administration of salvarsan was given without any appreciable influence upon the eruption.

On January 17th, the patient was placed on a diet consisting of an average of 27.79 grams of nitrogen and about 2700 calories per day (38.7 calories per kg.) The amount of nitrogen retained on the first day of that diet was 9.8 grams. High nitrogen retention continued throughout the entire period. The total amount of nitrogen ingested during the period (5 days) was 138.93 grams. In the urine and faeces, 104.35 grams were eliminated: 21.5 grams of scales were collected, 11.12% of which was nitrogen, equalling 2.39 grams of nitrogen. This leaves a net retention of 32.19 grams of nitrogen. The average body weight was 70.2 kg.

In Period 2, the patient was placed on a diet consisting of an average of 13.45 grams of nitrogen and an energy supply of about 2500 calories per day (36 calories per kg.) During this period the patient ingested 94.12 grams of nitrogen. He eliminated 82.32 grams in the urine and faeces. During the period, 64.0 grams of

PLATE XXXII.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 9.  
Research patient No. 5. H. B.  
Photograph taken Jan. 25, 1913.



Fig. 10.  
Research patient No. 5. H. B.  
Photograph taken April 5, 1913. Dietary treatment.  
No internal treatment and no local measures save the  
occasional use of vaseline.



PLATE XXXIII.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 12.  
Research patient No. 5. H. B.  
Photograph taken April 5, 1913. Dietary treatment.  
No internal or external treatment save the occasional  
use of vaseline.

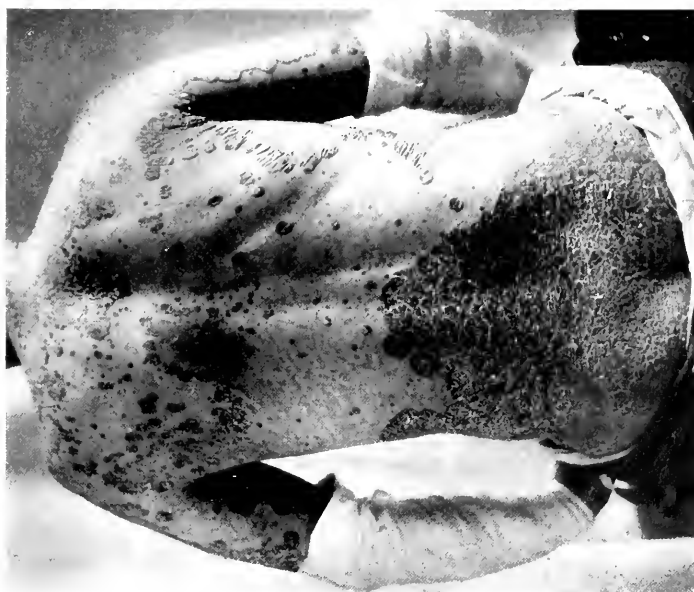


Fig. 11.  
Research patient No. 5. H. B.  
Photograph taken Jan. 25, 1913.





scales were collected, containing 7.35 grams of nitrogen. This leaves a positive nitrogen balance of 4.45 grams. The average body weight was 69.4 kg., a loss of 0.8 kg.

In Period 3, the nitrogen in the diet was reduced to almost half that of the preceding period, an average of 7.26 grams per day (0.106 gram per kg.). The caloric value of the food was about 1600 per day (23.3 calories per kg.). The change from the high to the low diet was associated with a negative nitrogen balance, which lasted for four days of the period. During the last three days, there was a positive balance.

When we consider the balance for the week, we are surprised to find that the patient almost reached nitrogenous equilibrium on this low diet. He ingested 50.84 grams of nitrogen and excreted 51.54 grams, a loss of only 0.7 gram. Only 1.5 grams of scales were collected during the period. The patient's average weight was 68.6 kg., a loss of 0.8 kg.

The establishment of nitrogenous equilibrium on a diet containing only 0.106 gram of nitrogen per kg., and an energy supply that is a great deal less than is required for the maintenance of caloric equilibrium and which is associated with considerable loss in body weight, again show what a remarkable tenacity these patients' bodies have for protein.

In Period 4, the diet consisted of approximately the same amount of nitrogen, but of a higher caloric value—2100 per day (30.8 calories per kg.). The amount of nitrogen ingested was 54.18 grams; the amount excreted was 43.16 grams. 7.5 grams of scales were collected, but no analysis was made. Since none of this patient's scales were found to contain more than 12% of nitrogen, the 7.5 grams of scales could not have contained more than 0.9 gram of nitrogen. The net gain to the body in nitrogen for the period was, therefore, 10.12 grams. The patient's average weight was 68.2 kg., a loss of 0.4 kg.

It is remarkable to note at what a low level of nitrogen catabolism this patient lived. The average elimination of nitrogen in the urine per day was 5.14 grams. Calculated per kg. of body weight, we find that only 0.0754 gram of nitrogen was catabolized per kg. of body weight.

In Period 5, the patient received a diet of about 2600 calories and an average of 8.23 grams of nitrogen per day. The total amount of nitrogen ingested was 57.58 grams. In the urine and faeces were eliminated 45.13 grams, giving a positive balance of 12.45 grams of nitrogen and a gain of 0.1 kg. in weight.

## PATIENT NO. 5. MR. B. PERIOD I

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	300	1.63	4.88	789	Crackers.....	9	1.40	0.13	38
Butter.....	14	0.12	0.02	105	Meat.....	123.4	4.99	6.15	331
Milk.....	1000	0.515	5.15	680	Corned beef.....	78	6.17	4.81	214
Coffee.....	125	0.018	0.06	146	Plasmon.....	127.5	11.78	1.18	40
Eggs.....	95.5	2.19	2.09	146	Grapefruit.....	100	0.13	0.17	59
Asparagus soup.....	150	0.339	0.51	18	Apricots.....	39	0.08	0.08	65
Beets.....	50	0.385	0.19	18	Lettuce.....	.....	0.192	0.07	7
Swiss cheese.....	50	4.61	2.30	221	Total.....	.....	.....	27.79	2713

Analysis of Urine and Feces									
Per Cent of Total Urinary Nitrogen									
Daily Nitrogen Balance									
Date	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Urea N	Am- monia N	Creatinin N	Uric Acid N
1913									
Jan. 17	1620	1.025	16.62	.....	.....	.....	.....	.....	.....
" 18	1420	1.028	18.64	.....	.....	.....	.....	.....	.....
" 19	1530	1.028	21.31	.....	.....	.....	.....	.....	.....
" 20	2025	1.024	19.56	.....	.....	.....	.....	.....	.....
" 21	2225	1.019	21.34	.....	.....	.....	.....	.....	.....
Total.....	.....	.....	97.47	.....	.....	.....	.....	.....	.....
Average.....	.....	.....	19.49	.....	.....	.....	.....	.....	.....

## BALANCE FOR PERIOD

Patient's average weight.....	70.2
Calories per kg. of body weight.....	38.67
Nitrogen in food.....	138.93
Nitrogen in urine.....	97.47
Nitrogen in feces.....	6.88
Total nitrogen excreted.....	104.35
Nitrogen balance.....	+34.58 gms.

## ANALYSIS OF SCALES COLLECTED DURING PERIOD

Weight.....	21.5
Per Cent of Nitrogen.....	11.12
Total Nitrogen.....	2.39 gms.

## PATIENT NO. 5. MR. B. PERIOD II

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	303	1.62	4.91	797	Cornstarch.....	153	0.051	0.08	240
Butter.....	24.5	0.12	0.01	184	Crackers.....	9.5	1.40	0.13	40
Milk.....	650	0.497	3.23	412	Cheese.....	25.5	2.17	0.55	106
Coffee.....	125	0.408	0.06	60	Eggs.....	99	2.19	2.17	151
Corn flakes.....	15	1.182	0.18	60	Apple sauce.....	100	0.032	0.03	57
Rice soup.....	150	0.085	0.13	98	Grapefruit.....	123.5	0.13	0.16	57
Baked potatoes.....	108	0.382	0.41	98	Carrots.....	72	0.182	0.13	32
Rice croquettes.....	204	0.566	1.15	226	<b>Total.....</b>	<b>.....</b>	<b>.....</b>	<b>13.36</b>	<b>2490</b>

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
	Vol-umc	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-moniam Nitrogen	Undeter-mined Nitrogen	Uric-Acid Nitrogen	Creatinin N	Am-moniam N	Urea N	Undeter-mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913															
Jan. 22	1400	1.022	13.98	12.20	0.59	.....	0.92	.....	4.2	87.2	.....	11.90	13.36	-1.54	.....
" 23	1380	1.024	12.36	10.47	0.57	.....	0.92	.....	4.6	84.7	.....	13.28	13.52	+0.24	.....
" 24	1240	1.022	9.69	8.13	0.49	.....	0.92	.....	5.0	83.8	.....	10.61	12.42	+1.81	.....
" 25	1350	1.022	10.39	8.36	0.44	.....	0.92	.....	4.2	80.5	.....	11.31	11.84	+0.53	.....
" 26	1060	1.028	10.37	8.61	0.42	.....	0.92	.....	4.1	83.3	.....	11.29	13.66	+2.37	.....
" 27	1480	1.021	9.86	7.83	0.37	.....	0.92	.....	4.8	79.4	.....	10.78	15.83	+5.05	.....
" 28	1010	1.025	9.26	7.90	0.37	.....	0.89	.....	4.0	85.4	.....	10.15	13.49	+3.31	.....
Total.....			75.91	63.53	3.36	.....	6.41	.....	.....	.....	.....	82.32	94.12	+11.80	.....
Average.....			10.84	9.07	0.48	.....	.....	.....	4.4	83.7	.....	11.76	13.45	+ 1.69	69.4

## BALANCE FOR PERIOD

Patient's average weight.....	69.4 kgs.
Calories per kg. of body weight.....	35.9
Nitrogen in food.....	94.12 gms.
Nitrogen in urine.....	75.91
Nitrogen in feces.....	6.41
Total nitrogen excreted.....	82.32
Nitrogen balance.....	+11.80 gms.

ANALYSIS OF SCALES COLLECTED DURING PERIOD	
Weight	64.0
Per Cent of Nitrogen	11.48
Total Nitrogen	7.35 gms.

## PATIENT NO. 5. MR. B. PERIOD III

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	152.5	1.62	2.47	400	Baked potatoes.....	82.5	0.427	0.35	75
Butter.....	38.5	0.12	0.05	299	Macaroni.....	125	0.635	0.79	111
Milk.....	125	0.517	0.63	85	Pineapple.....	100	0.03	0.03	44
Coffee.....	125	0.048	0.06	99	Rice cake.....	196	0.650	1.27	218
Oatmeal.....	125	2.48	0.62	99	Apple.....	101	0.064	0.06	57
Asparagus soup.....	150	0.177	0.27	26	Figs.....	66.5	0.32	0.21	189
Spinach.....	50	0.610	0.30	26	<b>Total.....</b>	<b>7.11</b>			<b>1603</b>

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance								
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am- monia N	Creatinin N	Uric-Acid N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																			
Jan. 29	1000	1.025	7.70	5.97	0.43	.....	.....	.....	0.91	100	77.5	5.6	.....	.....	.....	8.61	7.11	-1.50	.....
" 30	1040	1.024	7.48	5.90	0.34	.....	.....	.....	0.91	100	78.8	4.5	.....	.....	.....	8.39	6.71	-1.68	.....
" 31	2180	1.010	7.19	5.59	0.31	.....	.....	.....	0.91	100	77.7	4.3	.....	.....	.....	8.10	7.37	-0.73	.....
Feb. 1	1760	1.016	6.39	4.82	0.25	.....	.....	.....	0.91	100	75.4	3.9	.....	.....	.....	7.30	6.97	-0.33	.....
" 2	1270	1.019	5.29	3.87	0.25	.....	.....	.....	0.91	100	73.1	4.7	.....	.....	.....	6.20	7.97	+1.77	.....
" 3	1340	1.020	5.52	3.96	0.24	.....	.....	.....	0.91	100	71.7	4.3	.....	.....	.....	6.43	7.08	+0.65	.....
" 4	1430	1.019	5.59	4.08	0.18	.....	.....	.....	0.92	100	73.0	3.2	.....	.....	.....	6.51	7.63	+1.12	.....
Total.....	.....	.....	45.16	34.19	2.00	.....	.....	.....	6.38	100	.....	.....	.....	.....	.....	51.54	50.84	-0.70	.....
Average	.....	.....	6.45	4.88	0.28	.....	.....	.....	.....	.....	75.7	4.3	.....	.....	.....	7.36	7.26	-0.10	68.6

## BALANCE FOR PERIOD

Patient's average weight.....	68.6
Calories per kg. of body weight.....	23.40
Nitrogen in food.....	50.84
Nitrogen in urine.....	45.16
Nitrogen in feces.....	6.38
Total nitrogen excreted.....	51.54
Nitrogen balance.....	-0.70 gms.

## ANALYSIS OF SCALES COLLECTED DURING PERIOD

Weight	15
Per Cent of Nitrogen	.....
Total Nitrogen	.....

## PATIENT NO. 5. MR. B. PERIOD IV.—DIET

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	153.5	1.83	2.81	404	Cornstarch pudding.....	159	0.062	0.10	249
Butter.....	39.5	0.12	0.05	297	Potato salad.....	100	0.359	0.36	91
Cream.....	125	0.417	0.52	236	Pancakes.....	148.5	0.933	1.38	262
Coffee.....	125	0.048	0.06	99	Grapes.....	137	0.208	0.28	118
Oatmeal.....	25	2.48	0.62	99	Grapefruit.....	153	0.13	0.20	70
Potato cake.....	250	0.383	0.96	228	Rice soup.....	150	0.046	0.07	...
Carrots.....	75	0.162	0.12	33					
Cauliflower.....	75	0.272	0.20	22					
					<b>Total.....</b>			<b>7.73</b>	<b>2109</b>

Date	Analysis of Urine and Feces							Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance					
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Undet-er- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Uric-Acid N	Undet-er- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Body Weight
1913																	
Feb. 5	1820	1.016	5.38	4.31	0.23	.....	.....	100	80.1	4.2	.....	.....	.....	6.40	7.73	+1.33	.....
" 6	1660	1.016	5.96	4.42	0.23	.....	.....	100	74.1	3.8	.....	.....	.....	6.98	7.35	+0.37	.....
" 7	1200	1.022	4.68	3.70	0.22	.....	.....	100	72.6	4.7	.....	.....	.....	5.70	6.61	+0.94	.....
" 8	1140	1.022	4.50	3.31	0.21	.....	.....	100	73.6	4.6	.....	.....	.....	5.52	7.32	+1.80	.....
" 9	1330	1.020	4.93	3.66	0.16	.....	.....	100	74.2	3.3	.....	.....	.....	5.96	7.37	+1.41	.....
" 10	1060	1.019	4.99	3.80	0.23	.....	.....	100	76.1	1.6	.....	.....	.....	6.01	9.48	+3.47	.....
" 11	1940	1.015	5.55	4.25	0.20	.....	.....	100	76.6	3.6	.....	.....	.....	6.59	8.29	+1.70	.....
Total....			35.99	27.45	1.48	.....	.....	.....	.....	.....	.....	.....	.....	43.16	51.18	+11.02	.....
Average			5.14	3.92	0.21	.....	.....	.....	76.3	4.1	.....	.....	.....	6.16	7.71	+1.57	68.2

## BALANCE FOR PERIOD

Patient's average weight.....	68.2 kgs.
Calories per kg. of body weight.....	30.91
Nitrogen in food.....	54.18 gms.
Nitrogen in urine.....	35.99
Nitrogen in feces.....	7.16
Total nitrogen excreted.....	43.16
Nitrogen balance.....	+11.02 gms.

ANALYSIS OF SCALES COLLECTED DURING PERIOD	
Weight.....	7.5
Per Cent of Nitrogen.....	.....
Total Nitrogen.....	.....

## PATIENT NO. 5. MR. B. PERIOD V

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	155	1.68	2.61	408	Asparagus soup.....	150	0.132	0.20	277
Butter.....	40	0.12	0.05	300	Rice cake.....	250	0.120	1.05	137
Cream.....	200	0.498	0.99	378	Potato salad.....	150	0.338	0.51	86
Coffee.....	125	0.048	0.06	99	Pears.....	154	0.096	0.15	...
Oatmeal.....	25	2.48	0.62	30	Lettuce.....	27.5	0.192	0.05	73
Cauliflower.....	100	0.405	0.41	30	Apple.....	128	0.061	0.08	199
Beets.....	101	0.146	0.15	37	Figs.....	79	0.32	0.22	...
Macaroni.....	250	0.565	1.41	222					
Rice pudding.....	200	0.345	0.70	364					
					<b>Total.....</b>			<b>9.26</b>	<b>2610</b>

Analysis of Urine and Feces									
Date	Vol- ume	Specific Gravity	Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance	
			Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric-Acid Nitrogen	Creatinin Nitrogen	Nitrogen Excreted in Urine & Feces	N Balance
1913									
Feb. 12	1560	1.018	5.13	3.95	0.20	0.137	0.448	0.40	1.17
" 13	1640	1.020	5.14	4.08	0.13	0.147	0.409	0.37	1.17
" 14	1360	1.021	5.44	4.28	0.20	0.149	0.443	0.37	1.17
" 15	1800	1.017	5.36	4.06	0.20	0.133	0.443	0.52	1.17
" 16	1030	1.026	4.90	3.54	0.19	0.133	0.448	0.59	1.17
" 17	1810	1.019	5.64	4.30	0.18	0.125	0.423	0.61	1.17
" 18	1790	1.018	5.35	3.93	0.22	0.132	0.428	0.64	1.15
Total.....			36.96	28.14	1.32	0.956	3.042	3.50	8.17
Average.....			5.28	4.02	0.19	0.137	0.435	0.50	...

## BALANCE FOR PERIOD

Patient's average weight.....	68.3 kgs.
Calories per kg. of body weight.....	38.2
Nitrogen in food.....	57.58 gms.
Nitrogen in urine.....	36.96
Nitrogen in feces.....	8.17
Total nitrogen excreted.....	45.13
Nitrogen balance.....	+12.45 gms.

PATIENT NO. 5. MR. B. PERIOD VI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	153.5	1.60	2.47	404	Rice soup.....	150	0.091	0.14	155
Butter.....	39.5	0.12	0.05	296	Potato salad.....	200	0.343	0.68	182
Milk.....	125	0.527	-0.66	85	Pea croquette.....	196	1.16	2.27	212
Coffee.....	125	0.048	0.06	..	Pears.....	127	0.096	0.12	71
Oatmeal.....	25	2.48	0.62	99	Grapefruit.....	205	0.13	0.27	95
Spinach.....	75	0.553	0.42	39	Figs.....	73	0.32	0.23	207
Carrots.....	100	0.243	0.24	44	Pineapple.....	150	0.07	0.11	66
Potato cake.....	250	0.465	1.16	227	<b>Total.....</b>	.....	.....	<b>9.50</b>	<b>2036</b>

Date	Analysis of Urine and Feces								Per Cent of Total Urinary Nitrogen			Daily Nitrogen Balance					
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	An- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Creatinin N	Uric Acid N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913																	
Feb. 19	2060	1.015	5.50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.65	9.50	+2.85	.....
" 20	1440	1.020	5.07	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.22	8.49	+2.27	.....
" 21	1900	1.015	5.49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.61	9.24	+2.60	.....
" 22	1510	1.019	5.12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.27	8.36	+2.09	.....
" 23	1340	1.019	5.06	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.21	9.23	+3.02	.....
" 24	1940	1.015	5.56	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.71	8.24	+1.53	.....
" 25	2022	1.011	5.16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.34	8.26	+1.92	.....
Total.....	.....	.....	36.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	45.04	61.32	+16.28	.....
Average.....	.....	.....	5.28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.43	8.76	+2.33	67.9

## BALANCE FOR PERIOD

Patient's average weight.....	67.9 kgs.
Calories per kg. of body weight.....	29.85
Nitrogen in food.....	61.32 gms.
Nitrogen in urine.....	36.96
Nitrogen in feces.....	8.08
<b>Total nitrogen excreted.....</b>	<b>45.04</b>
<b>Nitrogen balance.....</b>	<b>+16.28 gms.</b>

In Period 6, the same diet was continued, but of a lower caloric value. The patient lost 0.4 kg. in body weight, but retained 16.28 grams of nitrogen.

On February 25th the patient left the hospital.

#### SUMMARY OF RESULTS OBTAINED IN THE STUDY OF PATIENT No. 5.

This patient, like Patients 3 and 4, possessed the ability to store nitrogen when on a very low protein diet. During the course of his stay in the hospital, the patient retained 86.83 grams of nitrogen, but lost 2.3 kg. of body weight (see table No. 4, p. 850).

#### PATIENT No. 8.

M. C.; age 27 years; female; born in Italy.

**FAMILY HISTORY.** Her mother died at the age of 64 years, of unknown cause and her father at the age of 35, of heart disease. The patient is unable to recall any facts relating to the history of illness in her early life.

**PREVIOUS HISTORY.** She is married and has had 5 children. The first pregnancy terminated in a miscarriage at 7 months. The second child is living and well and has been personally examined to verify this fact. The third pregnancy miscarried at five months. The fourth child died when 18 days old. The last child is living and well. The patient had a positive Wassermann of moderate degree.

**PRESENT DISEASE.** The patient has suffered from psoriasis for four years. She was admitted to the Polyclinic Hospital on April 22, 1913.

At this time she was suffering from a severe and widespread psoriasis involving the face, trunk and extremities (Figs. 13 and 15). The eruption covered the greater part of the face and scalp and involved, in thick nummular plaques, about three quarters of the cutaneous surface. A great amount of scales was thrown off every 24 hours: the patient complained of painful dryness, tension and fissuring, which required the use of vaseline for its relief. There were deep fissures about the knees, elbows and finger joints. The fingers were held in an extended position and could not be bent on account of the accompanying pain.

The patient remained in the hospital 49 days and was discharged at her request on June 6th, as her presence at home was demanded.

This patient had a most severe, inflammatory and extensive eruption. Seldom does one see a more widespread eruption, unless the psoriasis is a diffuse, universal one. The patient complained bitterly of soreness of the skin and pain from the fissures, particularly those about the knees, elbows and fingers. She is very sensitive to cold.

The patient was placed on a low nitrogen diet on April 23rd. By May 1st, improvement was noticed in the skin and the subjective symptoms were much relieved. The scaling, which had been very profuse, had considerably lessened by May 9th. Vaseline was ap-



PLATE XXXIV.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 13.  
Research patient No. 8. M. C.  
Photograph taken April 23, 1913.



Fig. 14.  
Research patient No. 8. M. C.  
Photograph taken May 21, 1913. Dietary treatment.  
No internal or external treatment except the use of  
vaseline.



PLATE XXXV.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 15.  
Research patient No. 8, M. C.  
Photograph taken April 23, 1913.



Fig. 16.  
Research patient No. 8, M. C.  
Photograph taken May 21, 1913. Dietary treatment.  
No internal or external treatment except the use of  
vaseline.



plied as infrequently as possible, without subjecting the patient to unnecessary distress. A note made on May 10th, states that "vaseline has not been applied for three days." By May 10th, the skin over the breasts and shoulders had become much paler.

By reference to Figs. 13, 14, 15 and 16, the improvement in the eruption between April 23rd, and May 21st, (the dates of the respective photographs) is clearly seen. In view of the fact that no internal treatment whatsoever was employed and no local treatment save the use of vaseline, the change, we believe, is truly remarkable. This improvement continued up to the date of her departure. After discharge from the hospital, the patient was unable, owing to poverty and other causes, to continue the diet prescribed and she returned to the hospital some weeks later with the eruption much aggravated.

In Period 1, the patient was placed on a diet consisting of an average of 6.84 grams of nitrogen and 1439 calories per day. (22.80 calories per kg.) During the period, she ingested 47.90 grams of nitrogen. She eliminated 34.62 grams in the urine and 4.67 grams in the faeces. This leaves a positive balance of 8.61 grams. 41 grams of scales were collected, containing 4.95 grams of nitrogen. On subtracting this from 8.61, we find that on this poor diet the patient retained 3.66 grams of nitrogen. The patient's average weight was 63.1 kg.

In Period 2, the patient was placed on a diet lower than the preceding one in its caloric and nitrogen content. It contained an average of 6.08 grams of nitrogen and 1150 calories per day (about one-half the normal requirements). The total amount of nitrogen ingested was 42.55 grams. The amount eliminated in the urine and faeces was 37.85 grams. 65 grams of scales were collected, containing 8.23 grams of nitrogen. This leaves a negative nitrogen balance of 3.53 grams. The patient's average weight was 60.6 kg., a loss of 2.5 kg.

In Period 3, the diet consisted of an average of 7.08 grams of nitrogen and 1553 calories per day (26.42 calories per kg.). During the period, 49.59 grams of nitrogen were ingested. Only 25.26 grams were eliminated in the urine (3.61 grams per day). 6.40 grams of nitrogen were found in the faeces and 11.20 grams in the scales. This results in a net nitrogen balance of 6.73 grams in favor of the body.

On May 10th, 500 cc. of milk, containing 2.51 grams of nitrogen were added to the patient's diet. As is seen from the chart, the extra protein caused no increase in the nitrogen elimination. The patient's average weight was 58.8 kg., a loss of 1.8 kg.

## PATIENT NO. 8. MRS. CAR. PERIOD I

Kind of Food	Amount Laten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	150.5	1.52	2.29	396	Eggs.....	43.5	2.18	0.95	66
Butter.....	44.5	0.15	0.07	334	Puffed rice.....	45.0	1.19	0.54	161
Milk.....	500.0	0.503	2.52	340	Total.....	.....	.....	6.70	1439
Cream.....	75.0	0.438	0.33	142					

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913														
April 23	1000	1.012	6.18	5.05	In- cluded	0.67	100	81.7	In- cluded	.....	6.85	6.70	-0.15	.....
" 24	1336	1.013	4.50	2.99	in the	0.67	100	66.5	in the	.....	5.17	6.91	+1.74	.....
" 25	1000	1.016	5.11	3.75	urea	0.67	100	73.4	urea	.....	5.78	6.91	+1.13	.....
" 26	1450	1.012	4.61	3.36		0.67	100	72.8		.....	5.28	6.84	+1.56	.....
" 27	560	1.021	3.91	2.80		0.67	100	71.6		.....	4.58	6.85	+2.27	.....
" 28	1260	1.014	5.07	3.74		0.67	100	73.8		.....	5.71	6.89	+1.15	.....
" 29	1440	1.013	5.24	4.05		0.65	100	77.3		.....	5.89	6.80	+0.91	.....
Total.....			34.62	25.74		4.67	.....	.....		.....	39.29	47.90	+8.61	.....
Average.....			4.95	3.68		.....	.....	74.4		.....	5.61	6.84	+1.23	63.1

## BALANCE FOR PERIOD

Patient's average weight.....	63.10 kgs.
Calories per kg. of body weight.....	22.80
Nitrogen in food.....	47.90 gms.
Nitrogen in urine.....	34.62
Nitrogen in feces.....	4.67
Total nitrogen excreted.....	39.29
Nitrogen balance.....	+8.61 gms.

## ANALYSIS OF SCALES COLLECTED DURING PERIOD

Weight	41.0 gm.
Per Cent of Nitrogen	12.04
Total Nitrogen	4.95 gms.

## PATIENT NO. 8. MRS. CAR. PERIOD II

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	149.5	1.62	2.42	393	Rice soup.....	150.0	0.081	0.12	22
Butter.....	15.5	0.12	0.02	116	Carrots.....	50.0	0.170	0.09	89
Milk.....	150.0	0.499	0.75	102	Macaroni.....	400.0	0.583	0.58	136
Coffee.....	125.0	0.048	0.06	...	Potatoes.....	150.0	0.541	0.81	65
Tea.....	250.0	0.015	0.01	99	Apples.....	100.0	0.08	0.08	41
Oatmeal.....	25.0	2.38	0.62	85	Pineapple.....	100.0	0.07	0.07	...
Orange.....	184.0	0.128	0.24	85	Total.....	...	...	5.90	1151

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance					
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Uric Acid N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	Nitrogen Balance	Weight
1913																
April 30	1220	1.014	4.59	3.02	0.24	0.151	1.01	100	65.8	5.3	3.3	.....	5.60	5.90	+0.30	.....
May 1	1260	1.010	4.70	2.91	0.19	0.203	1.01	100	61.9	4.1	4.3	.....	5.71	5.33	-0.38	.....
" 2	1570	1.005	4.19	2.83	0.17	0.171	1.01	100	67.6	4.1	4.2	.....	5.20	5.12	-0.08	.....
" 3	1340	1.005	3.70	2.36	0.11	0.166	1.01	100	63.8	3.0	4.5	.....	1.71	5.36	-0.85	.....
" 4	1240	1.011	4.50	3.16	0.13	0.175	1.01	100	70.2	2.9	3.9	.....	5.51	7.96	+2.15	.....
" 5	1560	1.009	4.20	2.89	0.11	0.150	1.01	100	68.8	2.6	3.6	.....	5.21	6.22	+1.01	.....
" 6	1490	1.010	4.92	3.02	0.11	0.173	0.99	100	.....	.....	3.1	.....	5.91	6.16	+0.35	.....
Total.....			30.80	Total.....	.....	1.192	7.05	.....	.....	.....	.....	.....	37.85	42.55	+4.70	.....
Average.....			4.40	.....	.....	0.170	.....	.....	.....	.....	3.9	.....	5.41	6.08	+0.67	60.64

## BALANCE FOR PERIOD

Patient's average weight.....	60.61 kgs.
Calories per kg. of body weight.....	19.40
Nitrogen in food.....	42.55 gms.
Nitrogen in urine.....	30.80
Nitrogen in feces.....	7.05
Total nitrogen excreted.....	37.85
Nitrogen balance.....	+4.70 gms.

## ANALYSIS OF SCALES COLLECTED DURING PERIOD

Weight.....	12.65
Per Cent of Nitrogen.....	8.23 gms.

## PATIENT NO. 8. MRS. CAR. PERIOD III

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	152.0	1.75	2.66	400	Beets.....	75.0	0.192	0.11	28
Butter.....	29.0	0.12	0.03	217	Potato cake.....	201.0	0.315	0.63	183
Milk.....	150.0	0.511	0.77	102	Rice croquette.....	200.0	0.537	1.07	222
Coffee.....	125.0	0.048	0.06	...	Pineapple.....	150.0	0.07	0.11	66
Tea.....	250.0	0.015	0.04	...	Rhubarb.....	150.0	0.09	0.14	31
Orange.....	143.5	0.128	0.18	66	Cornstarch.....	150.0	0.10	0.15	235
Asparagus soup.....	150.0	0.135	0.20	...	Total.....	.....	.....	6.18	1553

Date	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	UricAcid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total Nitrogen	Per Cent of Total Urinary Nitrogen			Daily Nitrogen Balance		
										Urea N	Am- monia N	UricAcid N	Nitrogen Excreted in Urine & Feeces	N in Food	Weight Balance
1913															
May 7	1390	1.008	4.08	2.74	0.12	0.157	0.314	0.75	0.91	67.2	2.8	3.8	4.99	6.18	+1.19
" 8	1290	1.011	3.54	2.32	0.06	0.199	0.304	0.66	0.91	65.5	1.7	5.6	4.45	6.94	+2.49
" 9	1260	1.010	3.55	2.48	0.06	0.188	0.311	0.51	0.91	70.0	1.7	5.3	4.45	6.01	+1.55
" 10	1400	1.010	3.57	2.44	0.06	0.165	0.301	0.60	0.91	68.4	1.6	4.6	4.48	9.60 <sup>1</sup>	+5.12
" 11	1670	1.009	3.45	2.27	0.07	0.206	0.292	0.61	0.91	65.7	2.0	6.0	4.36	7.66	+3.30
" 12	1260	1.008	3.53	2.38	0.10	0.177	0.287	0.59	0.91	67.4	2.8	5.0	4.44	6.75	+2.31
" 13	1050	1.011	3.54	2.40	0.07	0.193	0.292	0.59	0.91	67.7	2.0	5.5	4.48	6.45	+1.97
Total.....	.....	.....	25.26	17.03	0.53	1.285	2.104	4.11	6.40	.....	.....	.....	31.66	49.59	+17.93
Average.....	.....	.....	3.61	2.43	0.076	0.184	0.301	0.59	.....	67.4	2.1	5.1	4.52	7.08	+2.56

1500 c.c. of milk added to diet—containing 2.51 gms. of nitrogen.

## BALANCE FOR PERIOD

Patient's average weight.....	58.82
Calories per kg. of body weight.....	26.12
Nitrogen in food.....	49.59
Nitrogen in urine.....	25.26
Nitrogen in feces.....	6.10
Total nitrogen excreted.....	31.66
Nitrogen balance.....	+17.93 gms.

ANALYSIS OF SCALES COLLECTED DURING PERIOD	
Weight	Total Nitrogen
86.0 gms.	11.20 gms.
	13.03



## PATIENT NO. 8. MRS. CAR. PERIOD IV

Date	Kind of Food	Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
		Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Under- deter- mined Nitrogen	Total Nitrogen	Amount of Nitrogen Excreted in Urine & Feces	Nitrogen in Food	Nitrogen Balance	Weight
1913													
May 14	Bread	1290	1.006	2.97	2.07	0.06	0.181	0.253	0.41	2.00	69.7	8.5	13.8
" 15	Butter	1510	1.006	2.98	1.98	0.12	0.197	0.289	0.39	2.00	66.5	6.1	13.1
" 16	Coffee	1730	1.006	3.03	1.83	0.12	0.192	0.273	0.63	2.00	60.1	9.7	13.1
" 17	Tea	2030	1.009	3.14	1.83	0.08	0.228	0.289	0.71	2.00	58.3	9.0	20.8
" 18	Rice soup	1760	1.007	2.71	1.62	0.09	0.153	0.264	0.58	2.00	59.8	7.3	22.6
" 19	Carrots	1660	1.007	2.81	1.77	0.12	0.202	0.255	0.46	2.00	63.0	5.6	21.4
" 20	Macaroni	1530	1.008	2.65	1.58	0.10	0.177	0.271	0.52	2.03	59.6	7.2	16.4
Total				20.29	12.67	0.69	1.330	1.891	3.70	14.03	62.7	10.2	19.6
Average				2.89	1.81	0.10	0.19	0.271	0.53	.....	6.6	9.4	18.3

Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
Urea	Ammonia	Uric Acid	Under-determined	Urea	Ammonia	Uric Acid	Under-determined	Nitrogen Excreted in Urine & Feces	Nitrogen in Food	Nitrogen Balance	Weight
62.7	3.5	6.6	9.4	34.32	52.45	4.90	7.49	18.13	58.5	.....	.....

Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
Urea	Ammonia	Uric Acid	Under-determined	Urea	Ammonia	Uric Acid	Under-determined	Nitrogen Excreted in Urine & Feces	Nitrogen in Food	Nitrogen Balance	Weight
62.7	3.5	6.6	9.4	34.32	52.45	4.90	7.49	18.13	58.5	.....	.....

† 1000 c.c. of milk added to diet—containing 5.05 gms. of nitrogen.

## BALANCE FOR PERIOD

Patient's average weight.....	58.5 kgs.
Calories per kg. of body weight.....	36.5
Nitrogen in food.....	52.45 gms.
Nitrogen in urine.....	20.29
Nitrogen in feces.....	14.03
Total nitrogen excreted.....	34.32
Nitrogen balance.....	+18.13 gms.

## ANALYSIS OF SAMPLES COLLECTED DURING PERIOD

Weight.....	66.0 gms.
Per Cent of Nitrogen.....	13.38
Total Nitrogen.....	8.83 gms.

## PATIENT NO. S. MRS. CAR. PERIOD V

Kind of Food		Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....		150	1.62	2.42	394	Potato cake.....	200	0.405	0.81	182
Butter.....		30	0.01	0.01	225	Rice croquette.....	150	0.666	1.00	166
Cream.....		150	0.415	0.62	283	Rice pudding.....	150	0.324	0.49	273
Tea.....		375	0.015	0.06	...	Apple salad.....	150	0.07	0.10	...
Crackers.....		9	1.47	0.13	38	Mayonnaise.....	15	0.886	0.13	...
Grapefruit.....		185	0.13	0.21	85	Apricots.....	150	0.08	0.12	97
Banana.....		153	0.208	0.33	135	Pineapple.....	150	0.07	0.11	66
Apple sauce.....		150	0.034	0.05	85	Cornstarch pudding.....	150	0.101	0.15	235
Asparagus soup.....		75	0.117	0.18	28	Total.....	.....	.....	7.13	2292
Beets.....			0.206	0.15						

		Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
Date	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Undeter- mined Nitrogen	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913																
May 21	1490	1.007	2.72	1.64	0.10	0.120	0.276	60.3	3.8	4.4	10.1	21.3	4.07	7.13	+3.06	.....
" 22	2160	1.005	3.40	2.25	0.08	0.248	0.260	66.4	2.3	7.3	7.6	16.4	4.75	10.65	+5.90	.....
" 23	1870	1.006	2.79	1.93	0.13	0.202	0.269	69.3	4.5	7.2	9.6	9.3	4.14	6.68	+2.51	.....
" 24	2060	1.007	3.02	1.75	0.11	0.201	0.268	69.3	3.7	6.7	8.8	22.8	4.37	7.10	+2.73	.....
" 25	1650	1.009	2.75	1.59	0.09	0.179	0.262	57.8	3.3	6.5	9.5	22.9	4.10	7.13	+3.03	.....
" 26	1800	1.006	2.60	1.58	0.10	0.147	0.251	57.8	3.7	5.6	9.6	9.6	3.95	7.34	+3.39	.....
" 27	1450	1.007	3.84	2.58	0.14	0.200	0.233	67.2	3.4	5.2	6.6	17.4	5.19	10.45	+5.26	.....
" 28	1980	1.006	4.47	3.06	0.11	0.233	0.379	68.5	3.1	5.2	8.5	14.8	5.82	6.88	+1.06	.....
" 29	1390	1.006	2.82	1.76	0.13	0.166	0.253	62.5	4.5	5.9	9.0	18.1	4.18	6.85	+2.67	.....
Total.....			28.41	16.56	1.02	1.636	2.469	.....	.....	.....	.....	.....	40.57	70.21	+29.64	58.15

1100.0 gms. of sweetbread added to diet = containing 3.51 gms. of nitrogen.  
 220.0 gms. of glycerol added to diet = 3.74 gms. of nitrogen.

## BALANCE FOR PERIOD

Patient's average weight.....  
 Calories per kg. of body weight.....  
 Nitrogen in food.....  
 Nitrogen in urine.....  
 Nitrogen in feces.....  
 Total nitrogen excreted.....

58.15 kgs.  
 39.4  
 70.21 gms.

28.41  
 12.16

40.57

Nitrogen balance.....  
 +29.64 gms.

ANALYSIS OF SCALES COLLECTED FOR PERIOD  
 Total Nitrogen.....  
 Per Cent of Nitrogen.....  
 14.40

16.42 gms.

## PATIENT NO. 8. MRS. CAR. PERIOD VI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Butter.....	30	0.12	0.04	225	Brown betty.....	200	0.215	0.43	200
Tea.....	375	0.015	0.06	..	Tomatoes.....	146	0.144	0.21	32
Crackers.....	19	1.39	0.26	80	Turnips.....	100	0.147	0.15	41
Orange.....	185	0.128	0.24	85	Hominy.....	200	0.318	0.64	168
Dates.....	83	0.34	0.28	296	Apricots.....	200	0.08	0.16	130
Apple.....	196	0.064	0.13	112	Rice soup.....	150	0.088	0.13	...
Carrots.....	100	0.535	0.53	89	Candy.....	78.0	.....	.....	312
Macaroni.....	100	0.142	0.14	41	<b>Total.....</b>	<b>.....</b>	<b>.....</b>	<b>3.64</b>	<b>1866</b>
Strawberries.....	150	0.16	0.24	52					

Date	Analysis of Urine and Feces								Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913																		
May 30	1630	1.006	2.23	1.19	0.14	0.151	0.242	0.51	100	53.5	6.3	6.8	10.8	22.9	4.20	3.64	-0.56	.....
" 31	990	1.014	2.08	0.95	0.11	0.212	0.264	0.54	100	45.7	5.3	10.0	12.7	26.0	4.05	4.52	+0.47	.....
June 1	1380	1.011	1.89	0.87	0.14	0.205	0.247	0.43	100	46.0	7.4	10.8	13.1	22.7	3.86	4.57	+0.71	.....
" 2	2370	1.006	1.48	0.71	0.15	0.171	0.237	0.21	100	47.9	10.1	11.5	16.0	14.2	3.45	4.67	+1.22	.....
" 3	1940	1.006	1.76	0.86	0.19	0.173	0.217	0.28	100	48.8	10.8	10.2	14.0	15.9	3.73	4.26	+0.53	.....
" 4	2800	1.005	1.96	0.85	0.19	0.170	0.258	0.49	100	53.3	9.9	8.7	13.2	25.0	3.93	4.52	+0.59	.....
" 5	2035	1.007	1.75	0.69	0.19	0.170	0.254	1.96	100	39.4	10.8	.....	14.5	.....	3.71	4.52	+0.81	.....
Total.....	.....	.....	13.16	6.32	1.11	.....	1.749	.....	.....	.....	.....	.....	.....	.....	26.94	30.70	+3.76	.....
Average	.....	.....	1.88	0.90	0.159	0.181	0.249	.....	.....	47.8	8.46	9.63	13.2	.....	3.85	4.39	+0.54	58.4

## BALANCE FOR PERIOD

Patient's average weight.....  
 Calories per kg. of body weight.....  
 Nitrogen in food.....  
 Nitrogen in urine.....  
 Nitrogen in feces.....  
 Total nitrogen excreted.....

58.4 kgs.  
 32.0  
 30.70 gms.  
 13.16  
 13.78  
 26.94

+ 3.76 gms.

## ANALYSIS OF SCALES COLLECTED DURING PERIOD

Weight  
 74.0  
 Per Cent of Nitrogen  
 11.83  
 Total Nitrogen  
 8.75 gms.

In Period 4, the same amount of nitrogen was administered as in Period 3, but the diet contained a higher caloric value (36.5 calories per kg.). During the period, 52.45 grams of nitrogen were ingested. *Only 20.29 grams of nitrogen were eliminated in the urine, i.e., 2.89 grams per day.* 14.03 grams of nitrogen were found in the faeces, and 8.83 grams in 66.0 grams of scales that were collected during the period. This leaves a positive nitrogen balance of 9.3 grams. The patient's average weight was 58.5 kg., a loss of 0.3 kg.

On May 18th, 1000 cc. of milk, containing 5.05 grams of nitrogen, were added to the diet. In normal conditions, this would have caused a considerable, if not a corresponding rise, in the output of urinary nitrogen. In this case there was no increase whatsoever. The significance of this will be discussed later.

In Period 5, approximately the same diet was maintained as in the preceding period. The period consisted of nine days, in which 70.21 grains of nitrogen were ingested. During this period the patient eliminated 40.57 grams of nitrogen in the urine and faeces. 114 grams of scales were exfoliated, 14.4% of which was nitrogen, equalling 16.42 grams. This leaves a net nitrogen balance of 13.22 grams in favor of the body. The patient's average weight was 58.15 kg., a loss of 0.35 kg.

On May 22nd, 100 grams of sweetbread were added to the diet. This meant an additional ingestion of 3.54 grams of nitrogen, or a total of 10.65 grams. The amount eliminated in the urine was only 3.40 grams of nitrogen, an increase of less than 0.7 gram above that of the preceding and following days.

On May 27th, the patient was given 20 grams of glycozell (Kahlbaum) containing 3.74 grams of nitrogen. 2.75 grams of extra nitrogen appeared in the urine of May 27th and 28th. All of the extra nitrogen was eliminated in the form of urea. There was no increase in the undetermined nitrogen. Almost 1 gram of the glycozell nitrogen was retained in the system.

From the foregoing, two very significant facts stand out prominently. First, the very large amounts of nitrogen that may be lost through the skin in exfoliated epithelium (scales); second, the small amounts of nitrogen eliminated in the urine. In Period 4, the daily average of urinary nitrogen amounted to 2.89 grams; in Period 5, it was 2.78 grams (excluding May 22nd, 27th and 28th, when special substances were fed). *These are the very lowest amounts of nitrogen that have ever been found in the urine of an individual of that weight.*<sup>21</sup> In Period 6, we wished to find out the lowest level

TABLE V  
PROTEIN METABOLISM OF PATIENT NO. 8

Period	Date, 1913	Number of Days	Nitrogen in Urine	Nitrogen in Feeces	Total N Excreted	Nitrogen in Food	Nitrogen Balance	Nitrogen in Scales	Patient's Average Weight	Calories per Day	Calories per Sq. Meters of Surface	Urinary N per Kg. of Body Weight	Food N per Kg. of Body Weight
I	Apr. 23-Apr. 29	7	31.62	4.67	39.29	47.90	+ 8.61	4.95	63.1	1439	738	0.0784	0.1084
II	Apr. 30-May, 6	7	30.80	7.05	37.85	42.55	+ 4.70	8.23	60.61	1150	606	0.0726	0.1001
III	May, 7-May, 13	7	25.26	6.40	31.66	49.59	+17.93	11.20	58.82	1553	835	0.0614	0.1204
IV	May, 14-May, 20	7	20.29	14.03	34.32	52.45	+18.13	8.83	58.5	2134	1151	0.0196	0.1281
V	May, 21-May, 29	9	28.11	12.16	40.57	70.21	+29.64	16.42	58.15	2292	39.4	0.0543	0.1342
VI	May, 30-June, 5	7	13.16	13.78	26.94	30.70	+ 3.76	8.75	58.4	1866	1009	0.0322	0.0752
	<b>Total</b>	<b>44</b>	<b>152.54</b>	<b>58.09</b>	<b>210.63</b>	<b>293.40</b>	<b>+ 82.77</b>	<b>58.38</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>

TABLE VI  
PROTEIN METABOLISM OF PATIENT NO. 9

[illegible]

that the urinary nitrogen can be reduced to. We therefore reduced the nitrogen intake to an average of 4.39 grams per day. The total nitrogen intake for the week was 30.70 grams. 13.78 grams of nitrogen were found in the feces. The amount of nitrogen eliminated in the urine sank to below two grams per day. *Only 13.16 grams of nitrogen were eliminated in the urine for the period—an average of 1.88 grams per day.* 74 grams of scales were collected, in which were 8.75 grams of nitrogen.

The nitrogen balance for the period was as follows:

Ingested	Excreted		Scales	Balance	Body Weight
	Urine	Fæces			
30.70	13.16	13.78	8.75	—1.99	—0.25 kg.

We believe that this experiment throws a great deal of light on the mechanism of protein metabolism in patients with psoriasis, and we shall return to this later.

At this point we wished to place the patient on a nitrogen-free diet, but, to our great disappointment, family affairs required her immediate return to the home. On June 6th she left the hospital.

#### SUMMARY OF RESULTS OBTAINED IN THE STUDY OF PATIENT No. 8

In this patient, as in the preceding ones, a marked tendency to nitrogen retention was noted. The lowest figures for urinary nitrogen (1.88 grams per day) were observed in this case, when the intake was reduced to a little less than 4 grams (table No. 5, p. 869).

During the course of the investigation, which lasted 44 days, 293.4 grams of nitrogen were ingested. The amount excreted was 210.63 grams, resulting in a positive balance of 82.77 grams. 446 grams of scales were collected, in which were 58.38 grams of nitrogen. The detailed study of this case shows very clearly to what a marked extent the condition of the skin may influence the urinary nitrogen (see Period 6 and page 902).

#### PATIENT No. 9.

J. H.; female; single; 18 years of age.

**FAMILY HISTORY.** Her father was killed by an accident six years ago, at the age of 41; previous to the accident he had always been in good health. He had had psoriasis on the leg, when a young man, before he was married. Her mother living, aged 45 years, in poor health; she complains of stomach trouble; she has had rheumatism for the last three years; she is free from skin diseases.

An uncle, the mother's brother, had psoriasis seven years ago and was treated in the Jefferson Hospital of Philadelphia. An aunt by marriage, had psoriasis

in 1912; the attack lasted five weeks; she was treated by a specialist and has not seen any sign of the psoriasis since September, 1912. The patient has three brothers living, aged, 14, 17, 21, respectively, free from skin disease; one sister is dead.

**PERSONAL HISTORY.** The patient was born in Roumania; she has resided for the last ten years in the United States; she worked hard at sewing; her appetite is poor and the meals are irregular. The meals usually consist of two eggs daily, meat once a day; one glass of milk and one or two slices of bread daily, cocoa occasionally. No wines, tea, coffee or alcoholic drinks. The bowels were usually constipated until she was operated on for appendicitis in the German Hospital, in 1912. The patient has had measles; the date of the attack is not recalled. Her menses began at the age of 14. She had erysipelas in February, 1913. She has suffered from headaches since she was nine years of age.

**PRESENT ILLNESS.** The patient states that the cutaneous trouble started four years ago, at the age of 15. She first noticed a red scratch on the left shoulder; then papules started on the right shoulder and elsewhere. She was treated in the Jefferson Hospital Dispensary in 1912.

The patient was admitted to the Polyclinic Hospital on May 12, 1913. She presented plaques of psoriasis of varying size upon the trunk and extremities. The plaques were not numerous, but were large in diameter and considerably infiltrated. An extensive psoriatic belt, having almost the shape of an abdominal binder, extended around the lower part of the abdomen; this area of psoriasis was very scaly, thickened and elevated above the surrounding healthy skin. Scattered plaques were present upon the arms and legs (Figs. 17 and 18).

Vaseline was applied to the eruption to relieve the distressing tension and fissuring. The eruption improved, but did not disappear by the date of the conclusion of the metabolic studies on this patient. Chrysarobin, in ointment form, was thereupon applied with a resulting disappearance of the patches.

In Period I, the patient was kept on a diet consisting of an average of 6.4 grams of nitrogen and 1643 calories per day (30.5 calories per kg.). The total amount of nitrogen ingested during the period (8 days) was 56.18 grams. The amount excreted was 56.84 grams. During the period, 46.0 grams of scales were collected, containing 6.23 grams of nitrogen. The net nitrogen balance was, therefore, 6.89 grams. The patient's average weight was 53.96 kg.

On May 18th, 1000 cc. of milk, containing 5.05 grams of nitrogen, were added to the diet. As is seen from the chart (page 873) less than one gram of extra nitrogen was eliminated in the urine. The rest was retained.

In Period 2, an average of 7.04 grams of nitrogen and 2317 calories were given per day. On May 22nd, 100 grams of sweetbread, containing 3.54 grams of nitrogen, were added to the diet. On that day there was an increase of one gram in the urinary output of nitrogen. The rest was retained in the system.

On May 27th, 20 grams of glycocoll, containing 3.74 grams of nitrogen, were added to the diet. The nitrogen elimination in the urine was 3.80 and 3.98 grams on the 25th and 26th of May,

respectively. It rose to 6.00 and 5.95 grams on the 27th and 28th of May, and came down again on the 29th to 4.12 grams. There were eliminated 3.67 grams of extra nitrogen, which is almost quantitative elimination. A glance at the column of undetermined nitrogen, however, reveals the fact that not all the glycocoll was catabolized. The undetermined nitrogen, which was fairly constant—0.57 and 0.53 grams per day—rose to 0.93 and 1.31 on May 27th and May 28th respectively, to fall again to 0.48 gram on the 29th of May. While all the glycocoll found its way to the urine, only 2.53 grams were eliminated in the form of urea and 1.14 grams were eliminated, in all probability, unchanged.

The total amount of nitrogen ingested during the period (9 days) was 70.67 grams. In the urine and faeces there were eliminated 53.10 grams, and in the scales there were found 5.27 grams of nitrogen. The total output amounted to 58.37 grams, resulting in a net positive balance of 12.30 grams. The patient's average weight was 54.53 kg., a gain of 0.57 kg.

In Period 3, the nitrogen intake was reduced to an average of 4.28 grams per day (for object of this experiment see pages 868, 870). The total amount of nitrogen ingested during the period was 30.04 grams. The faeces of this period was found to contain 13.54 grams of nitrogen. The amount of nitrogen eliminated in the urine was 20.94 grams, or 2.99 grams per day. The nitrogen excreted in the urine and faeces, therefore, exceeded the ingested nitrogen by 4.44 grams. In the 21 grams of scales collected, there were 2.47 grams of nitrogen. This results in a net loss to the body of 6.91 grams of nitrogen. The average weight of the patient was 54.6 kg., a gain of 0.07 kg. (Patient No. 8 was kept on the same diet in Period 6. Note the difference in results. See page 867.)

In Period 4, the patient was kept on approximately the same diet as in Period 3, but with a higher amount of nitrogen, namely, 5.16 grams per day. The scaling diminished considerably during this period, so that only 2.5 grams of scales were collected.

The total amount of nitrogen ingested during Period 4 was 36.15 grams. The amount excreted was 30.47 grams, leaving a positive balance of 5.68 grams. The average weight of the patient was 54.54 kg., a loss of 0.06 kg.

The average amount of nitrogen eliminated in the urine per day was 2.47 grams. When we consider this amount in relation to the patient's weight, we find that 0.0453 grams of nitrogen were eliminated in the urine per kg. of body weight. The question then presented itself, what is the lowest amount of nitrogen that this patient



## PATIENT NO. 9. MISS J. H. PERIOD I

Kind of Food		Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....		152	1.75	2.66	399	Potato cake.....	200	0.315	0.63	182
Butter.....		30.5	0.12	0.04	229	Rice croquette.....	150	0.537	0.80	166
Milk.....		150	0.511	0.77	102	Apricots.....	150	0.08	0.12	97
Coffee.....		125	0.048	0.06	...	Pineapple.....	150	0.07	0.11	63
Tea.....		250	0.015	0.04	...	Banana.....	172	0.208	0.36	151
Orange.....		134	0.128	0.17	62	Gelatin.....	100	0.323	0.32	110
Asparagus soup.....		150	0.135	0.20	...	Puffed rice.....	15	1.19	0.18	54
Beets.....		75	0.192	0.14	28	Total.....	.....	.....	6.60	1643

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance			
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-mon-ia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter-mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am-mon-ia N	Uric Acid N	Creatinin N
1913														
May 13	1050	1.012	9.23	7.76	0.75	0.114	0.366	0.24	1.74	100	84.1	8.1	1.24	3.97
" 14	2160	1.006	6.60	5.05	0.63	0.129	0.335	0.46	1.74	100	76.5	9.5	1.96	5.1
" 15	2610	1.003	4.73	3.47	0.36	0.127	0.366	0.41	1.74	100	73.3	7.6	2.7	7.7
" 16	2140	1.006	4.62	3.32	0.24	0.147	0.363	0.55	1.74	100	72.0	5.2	3.2	7.9
" 17	2080	1.007	4.55	3.21	0.21	0.146	0.363	0.62	1.74	100	70.5	4.6	3.2	8.0
" 18	3070	1.004	5.11	3.85	0.28	.....	0.334	.....	1.74	100	75.4	5.5	.....	6.5
" 19	2200	1.004	4.02	2.83	0.23	0.124	0.324	0.51	1.74	100	70.4	5.7	3.1	8.1
" 20	2230	1.005	4.08	2.90	0.14	0.120	0.346	0.57	1.72	100	71.1	3.5	2.9	8.5
Total.....			42.94	32.39	2.84	.....	2.797	.....	13.90	.....	.....	.....	.....	.....
Average			5.37	4.05	0.35	0.151	0.349	.....	.....	.....	74.4	6.5	2.8	6.5

11000 c.c. of milk added to diet, containing 5.05 gms. of nitrogen.

BALANCE FOR PERIOD	
Patient's average weight.....	53.96 kgs.
Calories per kg. of body weight.....	30.45
Nitrogen in food.....	56.18 gms.
Nitrogen in urine.....	42.94
Nitrogen in feces.....	13.90
Total nitrogen excreted.....	56.84
Nitrogen balance.....	- 0.66 gms.

ANALYSIS OF SCALES COLLECTED DURING PERIOD	
Weight.....	46.0
Per Cent of Nitrogen.....	13.53
Total Nitrogen.....	6.23 gms.



## PATIENT NO. 9. MISS J. H. PERIOD III

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Butter.....	25	0.12	0.03	187	Carrots.....	100	0.142	0.14	44
Tea.....	375	0.015	0.06	...	Brown betty.....	200	0.215	0.43	114
Crackers.....	19	1.39	0.26	80	Strawberries.....	150	0.16	0.24	52
Candy.....	39	...	...	156	Tomatoes.....	100	0.144	0.22	33
Orange.....	112	0.128	0.15	51	Turnips.....	100	0.147	0.15	41
Dates.....	85	0.34	0.29	303	Hominy.....	200	0.318	0.64	168
Apple.....	189	0.064	0.12	107	Apricots.....	200	0.08	0.16	130
Macaroni.....	100	0.535	0.53	89	<b>Total.....</b>	<b>.....</b>	<b>.....</b>	<b>3.42</b>	<b>1555</b>

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance								
	Specific vol- ume	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen Excreted in Feces	Total N	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight	
1913																			
May 30	1900	1.007	4.05	2.83	0.15	0.157	0.335	0.58	1.93	100	69.8	3.7	3.9	8.3	14.3	5.98	3.42	-2.56	51.8
" 31	1710	1.008	3.40	2.21	0.15	0.154	0.334	0.55	1.93	100	65.0	4.4	4.5	9.8	16.2	5.33	4.30	-1.03	51.6
June 1	1950	1.008	2.62	1.52	0.14	0.114	0.327	0.52	1.93	100	58.0	5.4	4.4	12.5	19.9	4.55	4.44	-0.11	51.4
" 2	2285	1.006	2.57	1.39	0.19	0.142	0.358	0.49	1.93	100	54.0	7.4	5.5	13.9	19.1	4.50	4.41	-0.09	51.5
" 3	1595	1.009	2.62	1.60	0.19	0.146	0.346	0.34	1.93	100	61.1	7.2	5.5	13.2	13.0	4.55	4.29	-0.26	51.0
" 4	2360	1.007	3.04	1.71	0.20	0.164	0.342	0.62	1.93	100	56.2	6.6	5.4	11.2	20.4	4.97	4.67	-0.30	54.5
" 5	1745	1.008	2.64	1.43	0.19	0.140	0.357	0.52	1.96	100	54.2	7.2	5.3	13.5	19.7	4.60	4.51	-0.09	54.5
Total.....			20.94	12.69	1.21	1.017	2.399	3.62	13.54	.....	.....	.....	.....	.....	.....	34.48	30.04	-4.44	.....
Average			2.99	1.81	0.17	0.159	0.343	0.548	.....	.....	60.5	5.7	5.3	11.5	17.3	4.93	4.29	-0.63	51.6

## BALANCE FOR PERIOD

Patient's average weight.....	54.6 kgs.
Calories per kg. of body weight.....	28.5
Nitrogen in food.....	30.04 gms.
Nitrogen in urine.....	20.91
Nitrogen in feces.....	13.54
Total nitrogen excreted.....	34.48
Nitrogen balance.....	-4.44 gms.

## ANALYSIS OF SCALERS COLLECTED DURING PERIOD

Weight.....	21.0
Per Cent of Nitrogen.....	11.76
Total Nitrogen.....	2.47 gms.

## PATIENT NO. 9. MISS J. H. PERIOD IV

Date	Kind of Food	Analysis of Urine and Feeces				Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance										
		Vol- ume	Speci- fic Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feeces	N in Food	N Balance	Weight	
1913																				
June 6	Butter.....	2320	1.005	2.58	1.44	0.25	0.112	0.334	0.44	1.89	100	55.9	9.7	4.3	12.9	17.0	4.47	4.84	+0.37	54.5
" 7	Tea.....	1260	1.011	2.39	1.35	0.16	0.121	0.358	0.40	1.89	100	56.5	6.7	5.1	15.0	16.7	4.28	5.13	+0.85	54.6
" 8	Orange.....	2360	1.006	2.50	1.35	0.22	0.104	0.301	0.56	1.89	100	53.9	8.6	4.1	11.8	21.9	4.39	5.47	+1.08	54.3
" 9	Apple.....	1680	1.010	2.56	1.38	0.22	0.106	0.331	0.44	1.89	100	55.0	9.0	4.3	13.6	18.0	4.45	5.40	+0.95	54.8
" 10	Asparagus soup.....	2160	1.005	2.44	1.34	0.22	0.106	0.331	0.44	1.89	100	55.0	9.0	4.3	13.6	20.5	4.33	5.29	+0.96	54.8
" 11	Beets.....	1960	1.008	2.24	1.19	0.17	0.101	0.321	0.46	1.86	100	53.2	7.6	4.5	13.3	20.5	4.13	5.41	+1.28	54.4
" 12	Brown betty.....	2370	1.007	2.56	1.52	0.22	0.066	0.324	0.43	1.86	100	59.4	9.6	2.6	12.6	16.8	4.42	4.61	+0.19	54.4
Total.....	Potato cake.....			17.27	1.37	0.21	0.101	0.328	0.445	13.20	.....	.....	.....	.....	.....	30.47	36.15	+5.68	.....	54.54
Average.....				2.47	1.37	0.21	0.101	0.328	0.445	.....	.....	55.5	8.5	4.1	13.3	18.0	4.35	5.16	+0.81	54.54
BALANCE FOR PERIOD																				
Patient's average weight.....																				
Calories per kg. of body weight.....																				
Nitrogen in food.....																				
Nitrogen in urine.....																				
Nitrogen in feces.....																				
Total nitrogen excreted.....																				
Nitrogen balance.....																				
+5.68 gms.																				
ANALYSIS OF SCALES COLLECTED DURING PERIOD																				
Weight.....																				
2.5																				
Per Cent of Nitrogen.....																				
.....																				
Total Nitrogen.....																				
0.30 gms.																				
(Calculated)																				

54.54 kgs.  
30.57  
36.15 gms.

17.27  
13.20

30.47

+5.68 gms.

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## PATIENT NO. 9. MISS J. H. PERIOD V

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories					
Diet, June 13														
Orange.....	116	0.128	0.15	53	Diet, June 14	100	0.112	0.11	34					
Apple.....	281	0.064	0.18	160		134	0.07	0.09	56					
Banana.....	111	0.208	0.23	98		97.3	0.065	0.06	350					
Peaches.....	234	0.112	0.26	80		.....	.....	.....	.....					
Sago pudding.....	72.2	0.065	0.05	260		.....	.....	0.26	440					
Total.....	.....	.....	0.87	651	Diet, June 15									
					Pineapple.....	334	0.07	0.23	140	Total.....	.....	.....	0.32	611
					Sago pudding.....	130.7	0.065	0.086	471		.....	.....	.....	.....

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance			
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-moniamia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter-mined Nitrogen	Total N	Urea N	Am-moniamia N	Uric Acid N	Creatinin N	Undeter-mined N
1913														
June 13	1880	.....	2.50	1.14	0.17	0.037	0.297	0.86	100	45.7	6.8	1.5	11.9	34.4
" 14	970	.....	1.65	0.84	0.19	0.039	0.298	0.28	100	50.9	11.5	2.4	18.0	17.0
" 15	700	.....	1.67	.....	.....	.....	.....	.....	100	.....	.....	.....	.....	.....
Total.....	.....	.....	5.82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	.....	.....	1.94	.....	.....	.....	.....	5.48	.....	.....	.....	.....	.....	.....

## BALANCE FOR PERIOD

Patient's average weight.....	.....
Calories per kg. of body weight.....	1.45 gms.
Nitrogen in food.....	5.82
Nitrogen in urine.....	5.48
Nitrogen in feces.....	11.30
Total nitrogen excreted.....	.....
Nitrogen balance.....	-9.85 gms.

PATIENT NO. 9 MISS J. H. PERIOD VI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Milk <sup>1</sup> .....	1200	0.52	6.25	816
Eggs.....	186	2.19	4.05	284
Zwieback.....	150	1.67	2.50	650
Total.....	.....	....	12.80	1750

Diet of June 17, 1913.

Date	Analysis of Urine and Feces								Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Uric Acid N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913																		
June 16	325	.....	2.30	1.41	0.24	0.042	0.389	0.22	100	61.2	10.3	1.8	16.9	9.6	3.73	6.28	+2.55	52.4
" 17	380	.....	6.89	5.49	0.47	0.041	0.324	0.57	100	79.6	6.8	0.6	4.7	8.3	8.32	12.80	+4.48	52.8
" 18	1010	.....	10.01	8.53	0.56	0.058	0.289	0.57	100	85.0	5.5	0.6	2.9	5.6	11.41	11.82	+0.38	53.2
" 19	1100	.....	8.85	7.57	0.43	0.052	0.287	0.51	100	85.5	4.9	0.6	3.2	5.8	10.28	11.73	+1.45	53.3
Total	.....	.....	28.05	23.00	1.70	0.193	1.289	1.87	.....	.....	.....	.....	.....	.....	33.77	42.63	+8.86	.....
Average	.....	.....	7.01	5.75	0.42	0.048	0.322	0.47	.....	.....	.....	.....	.....	.....	8.44	10.66	+2.21	52.9

BALANCE FOR PERIOD

Patient's average weight.....	52.9 kgs.
Calories per kg. of body weight.....	33.1
Nitrogen in food.....	42.63 grms.
Nitrogen in urine.....	28.05
Nitrogen in feces.....	5.72
Total nitrogen excreted.....	33.77
Nitrogen balance.....	+8.86 grms.

## PATIENT NO. 9. MISS J. H. PERIOD VII

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	150	1.76	2.64	394	Potato cake.....	200	0.363	0.73	182
Butter.....	30	0.12	0.04	225	Peaches.....	100	0.112	0.11	34
Milk.....	950	0.542	5.15	646	Cornstarch pudding.....	100	0.364	0.36	157
Eggs.....	177	2.19	3.88	271	Strawberries.....	97	0.16	0.16	34
Orange.....	109	0.128	0.14	50					
Carrots.....	50	0.196	0.10	22	Total.....	.....	.....	13.31	2015

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance				
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-mon-ia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter-mined Nitrogen	Nitrogen in Feces	Total N	Urea N	Am-mon-ia N	Creatinin N	Uric Acid N	Undeter-mined N
1913	760														
June 20	760	8.60	8.60	.....	.....	.....	.....	.....	2.06	.....	.....	.....	.....	.....	.....
" 21	1400	8.15	8.15	.....	.....	.....	.....	.....	2.06	.....	.....	.....	.....	.....	.....
" 22	1370	8.15	8.15	.....	.....	.....	.....	.....	2.06	.....	.....	.....	.....	.....	.....
" 23	1810	8.43	8.43	.....	.....	.....	.....	.....	2.06	.....	.....	.....	.....	.....	.....
" 24	2120	8.95	8.95	.....	.....	.....	.....	.....	2.06	.....	.....	.....	.....	.....	.....
" 25	1400	8.55	8.55	.....	.....	.....	.....	.....	2.03	.....	.....	.....	.....	.....	.....
Total.....		50.83	44.94	44.94	Includ. in urea	0.622	1.632	.....	12.33	100	88.5	Includ. in urea	.....	.....	.....
Average.		8.47	7.49	7.49		0.104	0.272	.....	.....						

## BALANCE FOR PERIOD

Patient's average weight.....	52.8 kgs.
Calories per kg. of body weight.....	37.5
Nitrogen in food.....	80.71 gms.
Nitrogen in urine.....	50.83
Nitrogen in feces.....	12.33
Total nitrogen eliminated.....	63.16
Nitrogen balance.....	+17.55 gms.

would eliminate, if placed on a diet as free from nitrogen as can be conveniently administered?

Our original intention was to place the patient on a diet consisting of carbohydrates and fats and free from nitrogen, the carbohydrates and fats in sufficient quantity to cover all the caloric requirements.

Experiments of this sort were first described by Landergren.<sup>22</sup> He hoped to show that by keeping a man on a diet containing sufficient caloric value to cover all the energy requirements, but in a state of specific nitrogen hunger, that the lowest nitrogen catabolism compatible with life will take place. He found that during the first 3 to 5 days there was a gradual decline in the nitrogen output, which reached the lowest level on the 4th to 6th day, when it remained constant. The nitrogen eliminated at this time per kg. of body weight per 24 hours was 40 to 50 mg.

We planned to keep our patient on a diet similar to Landergren's, but we soon had to modify our plans on account of the monotony of the diet. The patient ate only a small fraction of the sago starch.

The experiment lasted for three days. On June 13th, the patient received 0.87 gram of nitrogen in the food which had a heat value of 651 calories. On this day the patient eliminated 2.5 grams of nitrogen in the urine. On June 14th, 0.26 gram of nitrogen was ingested in the food, which had a heat value of only 440 calories. On this day 1.65 grams of nitrogen were eliminated in the urine. On June 15th, 0.32 gram of nitrogen was ingested in the food which had a heat value of 611 calories. The amount of nitrogen in the urine was 1.67 grams. At this point we were forced to abandon the diet because of its monotony.

While the experiment was not as complete as originally planned, it nevertheless possesses considerable significance: on the second day of this diet the urinary nitrogen seems to have struck a level below which it did not go down. From the experiments of Landergren and others, we know that it takes at least three days to reach the lowest level of nitrogen catabolism. Our patient struck that level on the second day of the experiment. The amount of nitrogen eliminated in the urine per kg. of body weight was 0.0311 gram, showing to what an extent the patient's tissues were depleted of their reserve protein (see table No. 6, p. 869).



## PATIENT No. 7.

R. A.; male; age, 16; born in Russia.

**FAMILY HISTORY.** His father is living at the age of 42 years. He is in good health. He had catarrh of the stomach for ten years. He has never had any skin disease. His mother is living and well at the age of 42 years; she had an attack of rheumatism this winter (1913). She has been always free from skin disease.

He has two brothers aged 12 and 18 years, respectively, and one sister, aged 8 years, who is in good health. Two brothers died in infancy; cause unknown. The brothers and sister are free from skin disease.

**PERSONAL HISTORY.** The patient has resided in Philadelphia for the last five years. He has worked quite hard in an upholstery factory. His appetite is good; he is well nourished; he is a moderate tea drinker. He has never indulged in alcoholic drinks or in coffee. He is very nervous; he had chorea in 1912. Always slept well until he had the attack of chorea, when he was very restless; he still shows signs of the muscular twitching of the face, back, arms and abdomen. He had rheumatism at the age of 14, and measles when 2 years old.

**PRESENT ILLNESS.** He states that he was in Jefferson Hospital for treatment for chorea in March and one month after admission to the Hospital, he noticed a red spot on the cheek (in the latter part of April). This was followed by a more or less generalized eruption. The psoriasis first appeared while the patient was taking arsenic for his chorea. He was free from psoriasis for two and a half months during October, November and part of December. A second attack of psoriasis began in January, papules appearing on the forehead, then upon the body, legs, arms and face. The patient states that during the first year, the eruption was most pronounced in July and August. He was admitted to the Polyclinic Hospital on April 8, 1913. On admission, the patient presented a number of psoriasis plaques from 2 to 4 cm. in diameter, scattered over the trunk and extremities; the eruption was only moderate in extent. There were numerous areas of brownish pigmentation at the site of previous psoriasis areas; the face was quite covered with psoriasis scales.

A neurological examination made by Dr. John Rhein, yielded the following results:

No subjective sensory phenomena—outside of some itching. Station good. Knee jerks slightly + and equal. Babinski absent. Plantar reflex normal. Abdominal reflex normal. Cremasteric reflex normal. Slight irregular tremor of both arms and hands, slightly increased on voluntary effort. No change in sensation. Some mild general choreiform movements present. Coördinates the hands well. Pupils react normally; they are equal. No ocular palsies. Some rotary and lateral nystagmus.

In the study of all the cases cited above, a very marked and decided improvement was noted after the patient had been kept on a low protein diet. In all of our cases, all medicinal treatments, internal as well as external, were omitted. There remained only two factors which might have influenced the course of the psoriasis in our patients. First, the sojourn in the hospital, with its hygienic environment and, secondly, the regime of the low protein diet. We therefore decided to keep Patient No. 7 on a high protein diet, varying from period to period between 23.7 grams of nitrogen per day, to 38.65 grams of nitrogen per day. Our object was to discover

## PATIENT NO. 7. MR. AB. PERIOD I

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	226	1.68	594	Peas.....	50	0.797	0.40	54
Butter.....	15	0.15	112	Meat.....	116	3.85	4.47	313
Milk.....	1000	0.480	689	Apple sauce.....	100.5	0.034	0.03	57
Coffee.....	125	0.048	...	Roast beef.....	100.5	5.63	5.65	311
Tea.....	250	0.015	...	Cheese.....	51	2.30	1.17	212
Eggs.....	86.5	2.18	132	Crackers.....	22	1.16	0.26	93
Orange.....	138	0.128	63	Total.....	.....	.....	23.05	2621
Pea soup.....	67.5	0.426	...					

Date	Analysis of Urine and Feces							Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance						
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Uric Acid N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight	
1913																		
April 9	955	1.027	15.21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	16.20	23.05	+6.85	54.6
" 10	910	1.028	17.15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.14	26.26	+8.12	54.8
" 11	1150	1.028	19.02	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.01	25.07	+5.06	55.0
" 12	2370	1.017	20.35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.34	25.46	+4.12	56.0
" 13	1320	1.014	18.60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19.59	25.90	+6.31	55.1
" 14	1750	1.020	21.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.09	24.87	+2.78	55.1
" 15	2100	1.018	20.90	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.89	24.56	+2.67	54.9
" 16	925	1.032	17.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.67	24.42	+5.75	54.6
" 17	1360	1.025	21.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.29	25.03	+2.74	54.8
" 18	1050	1.028	19.30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.29	24.67	+4.38	54.8
" 19	1740	1.022	21.59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.58	24.80	+2.31	54.6
" 20	1500	1.023	20.43	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.39	24.40	+3.07	54.2
Total.....	.....	.....	232.63	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	244.48	298.64	+54.16	.....
Average.....	.....	.....	19.39	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.37	24.89	+4.51	54.9

## BALANCE FOR PERIOD

Patient's average weight.....	54.9 kgs.
Calories per kg. of body weight.....	47.8
Nitrogen in food.....	298.64 gms.
Nitrogen in urine.....	232.63
Nitrogen in feces.....	11.85
Total nitrogen excreted.....	244.48
Nitrogen balance.....	+54.16 gms.

## PATIENT NO. 7. MR. AB. PERIOD II

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance			
	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913														
May 4	Bread.....	152	1.62	2.47	400	Apricots.....	100	0.08	0.07	65	16.17	23.33	+7.76	55.1
" 5	Butter.....	29.5	0.12	0.04	221	Meat.....	125	4.36	5.45	337	20.02	23.75	+3.73	55.2
" 6	Milk.....	750	0.499	3.75	510	Cheese.....	50	2.30	1.15	207	22.32	25.36	+3.04	55.2
" 7	Coffee.....	125	0.048	0.06	...	Crackers.....	19	1.39	0.26	80	22.97	24.47	+1.50	54.7
" 8	Tea.....	250	0.015	0.04	...	Roast beef.....	125.5	6.23	7.82	399	21.95	22.76	+0.81	55.3
" 9	Grapefruit.....	184	0.13	0.24	65	Eggs.....	111.0	2.19	2.42	170	21.09	23.03	+1.94	55.3
" 10	Carrots.....	50	0.09	0.17	64	Total.....	.....	.....	.....	.....	19.62	22.12	+2.50	55.8
" 11											20.37	22.96	+2.59	56.0
" 12											20.22	24.02	+3.80	55.8
" 13											23.65	24.71	+1.06	55.8
Total.....											208.38	237.11	+28.73	.....
Average.....											20.84	23.71	+2.87	55.4

## BALANCE FOR PERIOD

Patient's average weight.....	55.4 kgs.
Calories per kg. of body weight.....	43.9
Nitrogen in food.....	237.11 gms.
Nitrogen in urine.....	192.72
Nitrogen in feces.....	15.66
Total nitrogen excreted.....	208.38
Nitrogen balance.....	+28.73 gms.

PATIENT NO. 7. MR. AB. PERIOD III

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	149.5	1.71	2.56	394	Rhubarb.....	100	0.09	0.09	23
Butter.....	14.5	0.12	0.02	108	Swiss cheese.....	100	5.01	5.01	442
Milk.....	1250	0.505	6.32	850	Crackers.....	34	1.39	0.47	143
Tea.....	250	0.015	0.04		Meat.....	125	4.64	5.80	337
Eggs.....	98	2.19	2.14	150	Roast beef.....	125	5.54	6.43	387
Carrots.....	50	0.126	0.06	22	Apple.....	62.5	0.064	0.04	36
Pineapple.....	50	0.07	0.03	22	<b>Total.....</b>	<b>.....</b>	<b>.....</b>	<b>29.02</b>	<b>2914</b>

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen						Daily Nitrogen Balance			
	Volume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Ammonia Nitrogen	Uric-Acid Nitrogen	Total N	Urea N	Ammonia N	Creatinin N	Uric-Acid N	Undetermined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913 May 14	1240	1.021	22.91	20.63	0.89	0.261	100	90.2	3.9	1.1	2.0	2.9	24.88	29.02	+4.14	.....
" 15	1860	1.013	24.45	22.29	1.06	0.257	100	91.1	4.3	1.0	1.8	1.6	26.42	29.50	+3.08	.....
" 16	1350	1.023	23.19	20.47	1.05	0.283	100	88.4	4.5	1.2	2.1	3.8	25.16	31.6	+6.45	.....
" 17	2100	1.012	23.80	21.37	1.06	0.224	100	89.7	4.4	0.9	1.9	2.9	25.77	30.1	+4.52	.....
" 18	2000	1.013	21.43	18.96	1.24	0.226	100	88.3	5.8	1.1	2.2	2.5	23.40	30.64	+6.64	.....
" 19	1540	1.019	23.70	20.79	1.11	0.264	100	87.7	4.7	1.1	1.8	4.6	25.67	31.15	+5.48	.....
" 20	1790	1.017	24.50	21.67	1.12	0.250	100	88.5	4.6	1.0	2.1	3.8	26.47	32.49	+6.02	.....
<b>Total.....</b>	<b>.....</b>	<b>.....</b>	<b>163.98</b>	<b>146.18</b>	<b>7.53</b>	<b>1.765</b>	<b>100</b>	<b>89.1</b>	<b>4.6</b>	<b>1.1</b>	<b>2.0</b>	<b>3.2</b>	<b>177.77</b>	<b>214.10</b>	<b>+36.33</b>	<b>55.3</b>
<b>Average</b>	<b>.....</b>	<b>.....</b>	<b>23.43</b>	<b>20.88</b>	<b>1.07</b>	<b>0.252</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>.....</b>	<b>25.39</b>	<b>30.59</b>	<b>+5.19</b>	<b>55.3</b>

BALANCE FOR PERIOD

Patient's average weight..... 55.3 kgs.  
Calories per kg. of body weight..... 52.7  
Nitrogen in food..... 214.10 gms.  
Nitrogen in urine..... 163.98  
Nitrogen in feces..... 13.79  
Total nitrogen excreted..... 177.77  
Nitrogen balance..... +36.33 gms.

## PATIENT NO. 7. MR. AB. PERIOD IV

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Calories
Bread.....	153	1.62	2.48	402	Beets.....	50	0.206	18
Butter.....	13.5	0.12	0.42	101	Apricots.....	100	0.08	65
Milk.....	1250	0.438	5.47	850	Pineapple.....	150	0.07	68
Cheese.....	100	2.31	2.31	415	Meat.....	125	4.55	337
Eggs.....	85.5	2.19	1.87	131	Roast beef.....	125	6.89	388
Crackers.....	34	1.47	0.50	143	Tea.....	250	0.01	...
Orange.....	189	0.13	0.25	87	Total.....	.....	.....	3003

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-monium Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter-mined Nitrogen	Total N	Urea N	Am-monium N	Creatinin N	Uric Acid N	Undeter-mined N
1913														
May 21	2170	1.011	24.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 22	1420	1.016	20.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 23	1200	1.018	20.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 24	1200	1.012	19.85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 25	1210	1.021	19.65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 26	2400	1.011	22.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 27	2180	1.010	21.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 28	2285	1.008	21.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 29	1560	1.013	21.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....			191.57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average			21.29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

## BALANCE FOR PERIOD

Patient's average weight..... 55.7 kgs.  
 Calories per kg. of body weight..... 53.9  
 Nitrogen in food..... 246.27 gms.  
 Nitrogen in urine..... 191.57  
 Nitrogen in feces..... 19.20  
 Total nitrogen excreted..... 210.77  
 Nitrogen balance..... +35.50 gms.

## PATIENT NO. 7. MR. AB. PERIOD V

Date	Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Amount Eaten in Grams	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen							
1913															
May 30	1580	1.020	28.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May 31	1580	1.020	26.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June 1	1880	1.022	32.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 2	2090	1.022	33.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 3	1320	1.023	27.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 4	1360	1.025	29.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 5	2090	1.015	32.19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	.....	.....	208.91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	.....	.....	29.84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Date	Analysis of Urine and Feces				Per Cent of Total Urinary Nitrogen				Amount Eaten in Grams	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen							
1913															
May 30	1580	1.020	28.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May 31	1580	1.020	26.10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June 1	1880	1.022	32.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 2	2090	1.022	33.20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 3	1320	1.023	27.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 4	1360	1.025	29.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 5	2090	1.015	32.19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	.....	.....	208.91	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average	.....	.....	29.84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

## BALANCE FOR PERIOD

Patient's average weight.....	56.5 kgs.
Calories per kg. of body weight.....	51.4
Nitrogen in food.....	270.58 gms.
Nitrogen in urine.....	208.91
Nitrogen in feces.....	9.52
Total nitrogen excreted.....	218.43
Nitrogen balance.....	+52.15 gms.

## PATIENT NO. 7. MR. AB. PERIOD VI

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	249	1.70	655	Eggs.....	4.23	2.19	96	147
Butter.....	30	0.12	225	Pineapple.....	0.04	0.07	2.10	44
Milk.....	1000	0.510	680	Peaches.....	5.10	0.112	0.07	68
Tea.....	250	0.015	..	Cheese.....	0.04	2.30	0.22	311
Orange.....	154	0.128	71	Crackers.....	0.20	1.39	1.73	224
Puffed rice.....	25	1.28	89	Meat.....	0.32	5.08	5.08	270
Tomatoes.....	61	0.144	13	Roast beef.....	0.09	6.40	6.40	310
Beets.....	50	0.186	18					
Brown betty.....	100	0.360	57	Total.....	0.36	.....	26.81	3182

Date	Analysis of Urine and Feeces					Per Cent of Total Urinary Nitrogen					Daily Nitrogen Balance		
	Vol-ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am-monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter-mined Nitrogen	Total N	Urea N	Am-monia N	Creatinin N	Undeter-mined N
1913													
June 6	1020	1.020	20.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 7	1050	1.024	18.68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 8	1950	1.013	18.40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 9	1940	1.012	18.70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 10	1640	1.015	19.58	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 11	1640	1.013	18.96	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" 12	1420	1.019	18.22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....			132.48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average.....			18.93	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

## BALANCE FOR PERIOD

Patient's average weight.....	56.3 kgs.
Calories per kg. of body weight.....	56.5
Nitrogen in food.....	182.66 gms.
Nitrogen in urine.....	132.48
Nitrogen in feeces.....	11.50
Total nitrogen excreted.....	143.98
Nitrogen balance.....	+38.68 gms.

PATIENT NO. 7. MR. AB. PERIOD VII

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread	263	1.81	4.77	692	Brown betty	100	0.362	0.36	57
Butter	30	0.12	0.04	225	Macaroni	150	0.609	0.91	133
Milk	1000	0.520	5.20	680	Potato cake	202	0.404	0.81	182
Tea	250	0.015	0.04		Green peas	50	0.870	0.44	54
Crackers	50	1.39	0.70	211	Peaches	100	0.112	0.11	34
Cheese	75	1.73	1.30	311	Strawberries	100	0.16	0.16	35
Eggs	99	2.19	2.17	151	Meat	100	5.29	5.29	270
Puffed rice	15	1.28	0.20	54	Roast beef	74	6.94	5.13	229
Grapefruit	161	0.13	0.21	74					
Tomato	113	0.144	0.16	25	Total			28.43	3417

Date	Analysis of Urine and Feces					Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance							
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Total N	Urea N	Am- monia N	Creatinin N	Undeter- mined N	Nitrogen Excreted in Urine & Feces	N in Food	N Balance	Weight
1913																	
June 13	1050	1.023	18.63	Urine	Lost										28.43	.....	56.8
" 14	970	1.024	18.10											21.29	27.63	+6.34	.....
" 15	1000	1.023	19.05											20.76	28.15	+7.39	.....
" 16	970	1.026	20.71											21.71	29.96	+8.25	.....
" 17	1070	1.026	20.71											23.37	27.40	+4.03	.....
" 18	1070	1.024	20.80											23.46	28.54	+5.08	.....
" 19	1250	1.021	21.42											24.07	27.79	+3.72	.....
Total			138.49 <sup>1</sup>						18.61					157.10 <sup>1</sup>	197.90	+40.80 <sup>1</sup>	.....
Average			19.785											.....	28.27	.....	.....

<sup>1</sup> Calculated for 7 days.

BALANCE FOR PERIOD

Patient's average weight	.....
Calories per kg. of body weight	.....
Nitrogen in food	197.90 gms.
Nitrogen in urine	138.49
Nitrogen in feces	18.61
Total nitrogen excreted	157.10
Nitrogen balance	+40.80 gms.



## PATIENT NO. 7. MR. AB. PERIOD VIII

Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories	Kind of Food	Amount Eaten in Grams	Per Cent of Nitrogen	Amount of Nitrogen	Calories
Bread.....	151	1.76	2.65	397	Potato cake.....	200	0.363	0.73	182
Butter.....	30	0.12	0.04	225	Peaches.....	100	0.112	0.11	34
Milk.....	950	0.542	5.15	646	Strawberries.....	100	0.16	0.16	35
Eggs.....	177	2.19	3.88	271	Cornstarch pudding.....	100	0.364	0.36	157
Orange.....	151	0.128	0.19	69					
Carrots.....	50	0.196	0.10	22	<b>Total</b> .....	...	.....	<b>13.37</b>	<b>2038</b>

Date	Analysis of Urine and Feces						Per Cent of Total Urinary Nitrogen				Daily Nitrogen Balance			
	Vol- ume	Specific Gravity	Total Nitrogen	Urea Nitrogen	Am- monia Nitrogen	Uric Acid Nitrogen	Creatinin Nitrogen	Undeter- mined Nitrogen	Nitrogen Excreted in Urine & Feces	Nitrogen in Food	N Balance	Weight		
1913														
June 20	960	1.019	11.27	11.99	0.82	0.165	.....	.....	15.49	13.37	-2.12	.....		
" 21	850	1.025	12.65	10.39	0.71	0.139	.....	.....	13.87	13.62	-0.25	.....		
" 22	850	1.020	13.38	11.39	0.63	0.138	.....	.....	11.60	13.75	-0.85	.....		
" 23	1720	1.010	13.03	.....	.....	.....	.....	.....	11.25	13.89	-0.45	.....		
" 24	1440	1.010	11.85	.....	.....	.....	.....	.....	13.27	13.76	+0.69	.....		
" 25	880	1.020	12.08	.....	.....	.....	.....	.....	13.33	13.99	+0.66	.....		
Total.....			77.26						84.61	82.29	-2.32	.....		
Average.....			12.88						12.09	13.71	-0.33	.....		

## BALANCE FOR PERIOD

Patient's average weight.....	.....
Calories per kg. of body weight.....	82.29 gms.
Nitrogen in food.....	77.26
Nitrogen in urine.....	7.35
Nitrogen in feces.....	84.61
Total nitrogen excreted.....	-2.32 gms.
Nitrogen balance.....	

to what extent the sojourn in the hospital alone influenced the course of the psoriasis.

In Period 1, the patient was placed on a diet consisting of an average of 24.89 grams of nitrogen per day. The heat value of the food was about 2600 calories per day, or 47.8 calories per kg. The total amount of nitrogen ingested during the period (12 days) was 298.64 grams. The amount excreted was 244.48 grams, resulting in a positive balance of 54.16 grams of nitrogen. The average body weight was 54.9 kg.

In Period 2, approximately the same diet was continued. During the period (10 days) 237.11 grams of nitrogen were ingested and 208.38 grams were excreted, leaving a positive nitrogen balance of 28.73 grams. The average body weight was 55.4 kg., a gain of 0.5 kg.

In Period 3 (7 days), the nitrogen intake was raised to an average of 30.59 grams per day. The total amount ingested during the period was 214.10 grams. The amount excreted was 177.77 grams, leaving a positive balance of 36.33 grams. The caloric value of the food was about 2900 calories per day, or 52.7 calories per kg. The patient's average weight was 55.3 kg., a loss of 0.10 kg.

In Period 4, the average nitrogen intake was 27.36 grams. During the course of the period (9 days) 246.27 grams of nitrogen were ingested. The amount eliminated in the urine and faeces was 210.77 grams, leaving a positive balance of 35.50 grams. The average weight of the patient was 55.7 kg., a gain of 0.4 kg.

In Period 5, the nitrogen intake was raised to an average of 38.65 grams per day. The total amount ingested during the period (7 days) was 270.58 grams. In the urine and faeces were eliminated 218.43 grams, which leaves a positive balance of 52.15 grams. The patient's average weight was 56.5 kg., a gain of 0.8 kg.

In Period 6, an average of 26.09 grams was ingested per day. The total amount for the period was 182.66 grams. The amount excreted was 143.98 grams, leaving a positive balance of 38.68 grams. The patient's average weight was 56.3 kg., a loss of 0.20 kg.

In Period 7, 197.90 grams of nitrogen were ingested, *i. e.*, an average of 28.27 grams per day. The amount eliminated in the urine and faeces was 157.10 grams, leaving a positive balance of 40.80 grams (see table No. 7, p. 891).

This case has a special interest, inasmuch as the patient was used partly as a clinical control for the other patients. In order to determine whether psoriasis would improve as a result of the

PLATE XXXVII.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 19.

Research patient No. 7. R. A.

Photograph taken April 10, 1913. Stains of former lesions present.



Fig. 20.

Research patient No. 7. R. A.

Photograph taken May 21, 1913. This patient was kept on a *high nitrogen diet*. The patches, by actual measurement, increased in size, and new lesions have appeared.



PLATE XXXVIII.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.



Fig. 22.  
Research patient No. 7. R. A.  
Photograph taken May 21, 1913. Patient kept on  
*high nitrogen diet*. The patches, by actual measure-  
ment, have increased in size, and new lesions have ap-  
peared.



Fig. 21.  
Research patient No. 7. R. A.  
Photograph taken April 10, 1913. Stains of former  
eruption present.



TABLE VII  
PROTEIN METABOLISM OF PATIENT NO. 7

Period	Date, 1913	No. of Days	Nitrogen in Urine	Nitrogen in Feces	Total N Excreted	Nitrogen in Food	Nitrogen Balance	Patient's Average Weight	Calories per Day	Calories per Kg.	Calories per Sq. M.
I	Apr. 9-Apr. 20..	12	232.63	11.85	244.48	298.64	+54.16	54.9	2821	47.8	1475
II	May 4-May 13..	10	132.72	15.66	208.38	237.11	+28.73	55.4	2540	45.9	1491
III	May 14-May 20..	7	163.98	13.79	177.77	214.10	+36.33	55.3	2314	52.7	1632
IV	May 21-May 29..	9	191.57	19.20	210.77	246.27	+35.50	55.7	3003	53.9	1674
V	May 30-June 5..	7	208.91	9.52	218.43	270.38	+52.15	56.5	2804	51.4	1603
VI	June 6-June 12..	7	132.48	11.50	143.98	182.66	+38.68	56.3	3182	56.5	1761
VII	June 13-June 19..	7	138.49	18.61	157.10	197.90	+40.80	....	3417	....	....
Total	.....	59	1260.78	100.13	1360.91	1647.26	+286.35	....	....	....	....

TABLE VIII

Author	Length of Experiment in Days	Day of Exp.	Total Calories	Calories per Kg.	Body Weight	N in Food	N in Urine	N in Feces	Total N Excreted	N Balance	N in Urine per Kg. of Body Weight	Total N in Excreta per Kg. of Body Weight	N in Food per Kg. of Body Weight
Hirschfeld I (1888).....	8	6-8	2852	39	73	4.15	4.74	1.28	6.02	-1.87	0.065	0.082	0.057
" II (1888).....	8	6-8	3462	47	73	7.46	5.76	1.65	7.41	+0.05	0.079	0.102	0.102
Klemperer I (1889).....	8	6-8	5020	79.4	63.25	5.28	3.33	1.26	4.59	+0.69	0.053	0.073	0.083
" II (1889).....	8	6-8	5020	77.4	64.8	5.28	2.87	1.02	3.89	+1.39	0.044	0.060	0.083
Siven, 1901.....	17	17	2755	43	64.0	2.96	2.75	1.31	4.06	-1.10	0.043	0.063	0.046
Patient No. 8 per VI.....	7	...	1866	32	58.4	4.39	1.88	1.97	3.85	+0.54	0.032	0.066	0.075
Patient No. 9 per III.....	7	...	1555	28.5	54.6	4.29	2.99	1.93	4.92	-0.63	0.055	0.090	0.079
Patient No. 9 per IV.....	7	...	1666	...	51.5	5.16	2.47	1.89	4.36	+0.80	0.045	0.080	0.095

physical and mental rest incident to sojourn in a hospital, irrespective of the character of the diet, the patient was not placed on a low nitrogen dietary, but, on the contrary, was given a high nitrogen intake. After a few weeks' residence in the hospital, there was a pronounced improvement in the patient's nervous condition; the choreiform movements were distinctly less marked. No improvement, however, took place in the psoriatic eruption. *Indeed, under this high nitrogen diet, the psoriasis plaques gradually increased in size and some new patches appeared.* After a number of weeks, many of the patches began to clear in the centre and became circinate. The patient remained in the hospital from April 8th to July 1st, a period of 84 days, and at the end of this time the psoriasis was worse than upon admission. The relative appearance of the eruption on April 10th and on May 21st is seen in Figs. 19, 20, 21 and 22. The increase in the size of the patches was verified by actual measurement.

Before discharge from the hospital, a chrysarobin ointment was applied and the eruption gradually disappeared.

#### DISCUSSION OF RESULTS.

From the study of the cases presented above, the following conclusions may be drawn:

1. That these patients possess a strong tendency to store nitrogen.
2. That the nitrogen is stored with great ease.
3. That on a low protein diet the patients may eliminate extraordinarily small quantities of nitrogen in their urine.
4. That a low protein diet has a distinct and a remarkably beneficial influence on the course of the psoriasis.
5. That very large quantities of nitrogen may be lost through the skin in the form of scales.
6. That on a high protein diet tremendous quantities of nitrogen may be retained in the system.
7. That a high protein diet, although it did not bring about a relapse in a case where the active process had been checked (Patient No. 3, Period 15), did stimulate very considerably the course of the existing psoriasis in active form. (Patient 3, Periods 7 and 8; Patient 5, Period 1, and Patient 7.)
8. That the retention of nitrogen is not always associated with a corresponding gain in body weight.



For the sake of convenience, we shall divide the discussion of our results into several chapters:

#### THE VALUE OF THE ELIMINATED NITROGEN IN THE INTERPRETATION OF PROCESSES OF METABOLISM.

In the ordinary studies of protein metabolism, two kinds of nitrogenous end products are taken into consideration.

1. URINARY NITROGEN.—This represents the amount of nitrogen eliminated as urea, ammonia, creatinine, uric acid, purin bodies and other individually undeterminable nitrogenous compounds, which may consist of amino-acids and peptides, which managed to filter through the kidney before they were completely catabolized. All these are cleavage and end products of protein metabolism.

2. FECAL NITROGEN.—The faecal nitrogen consists of two fractions: (1) nitrogen secreted and excreted in the form of ferments and otherwise by the epithelial cells of the mucous membrane of the intestinal tract, which may be considered a true product of cell metabolism of the intestinal wall and (2) nitrogen of the unresorbed food, which has never played any part in the body metabolism.

In some experiments the nitrogen of the perspiration and normal skin exfoliation is also taken into consideration. Their values, however, are so small that for all practical purposes they may be neglected.

In the introductory chapter it was stated that for the estimation of the protein that is catabolized by an individual, it is necessary to determine the amount of nitrogen eliminated in the urine and faeces and to multiply that figure by 6.25, which is the ratio between nitrogen and protein. It is evident that while this method permits of a very accurate study of the nitrogen and protein balances, our inability to distinguish and separate the two fractions of faecal nitrogen, may cause the introduction of considerable error in the study of the quantity of protein that is actually catabolized by the cells of the body. The reader will, therefore, always bear in mind that the actual nitrogen metabolism of the cells of the body is less than is expressed by the sum of urinary and faecal nitrogen, or in other words, the nitrogen of the food that is resorbed and takes part in the cell metabolism is less than the amount ingested.

In the study of the cases presented above, a third and very important factor of nitrogen has to be taken into consideration, namely, the nitrogen found in the scales of the skin. Analysis of the scales has shown that they contain from 9.92 to 14.4% of nitro-

gen. They also contain sulphur and phosphorus and we have every reason to believe that they consist primarily of protein. This being the case, we must include the nitrogen thus eliminated in the calculation of our balances, but we must not include that nitrogen in the calculation of the body protein catabolism. This nitrogen has its own history in the body economy and, as will be shown later, exerts a tremendous influence on the metabolism of the psoriatic patient.

#### THE MINIMAL PROTEIN REQUIREMENTS AND THE MINIMAL PROTEIN CATABOLISM.

By "minimal protein requirements" we mean the smallest amount of protein that is necessary to maintain an individual in a state of nitrogenous equilibrium and in a normal degree of efficiency. In this discussion we are not so much interested in the lowest quantity of protein that is necessary to keep the body in nitrogenous equilibrium, as in the question: what is the lowest quantity of protein (nitrogen) per kg. of body weight which has been found to be catabolized by human individuals under different conditions of nutrition.

We shall present a brief resumé of those experiments and compare them with our own observations on the patients with psoriasis, and we thereby hope to be able to throw some light on the pathological physiology of the protein metabolism of those patients. For obvious reasons we shall limit our review to those experiments that were performed on man (see table No. 8, p. 891).

Hirschfeld<sup>23</sup> was the first to attempt a systematic study on the influence of low protein diets on the urinary and faecal nitrogen eliminations. His object was to discover the lowest protein requirements for nitrogenous equilibrium. The most important features of his experiments are tabulated in Table 8. The experiments were performed on a man weighing 73 kg., and they consisted of two series of 8 days each. In the first series, the diet contained an average of 4.15 grams of nitrogen per day and an energy supply of 2852 calories (39 calories per kg.). The amount of nitrogen eliminated in the urine was 4.74 grams per day and in the faeces 1.28 grams per day, giving a total of 6.02 grams, resulting in a negative nitrogen balance of 1.87 grams per day, *i. e.*, the amount, 4.15 grams, that was given in the food was not sufficient to cover all the body's needs. In the second series, therefore, the nitrogen intake was raised to an average of 7.46 grams per day. Unfor-

tunately, a second factor was introduced into this series which no doubt influenced the result—the caloric value of the food was raised to 3462 calories per day (47 calories per kg.). Hirschfeld's point would have been brought out much more clearly had the rise in the nitrogen intake been the only variable. The nitrogen output in the urine for this period was 5.76 grams and in the faeces 1.65 grams, making a total of 7.41 grams, which, for all practical purposes, may be considered the establishment of nitrogenous equilibrium.

Simultaneously with Hirschfeld, Klemperer<sup>24</sup> studied the question of the extent to which the protein metabolism can be depressed in normal, healthy, human individuals. For a period of 8 days, he kept two normal men on a diet containing 5.28 grams of nitrogen and a heat value of 5020 calories (79.4 calories per kg. in the first experiment and 77.4 calories per kg. in the second experiment). The nitrogen eliminated in the urine of the first subject, during the last three days of the experiment, was 3.33 grams and in the faeces, 1.26 grams. The total amount of nitrogen eliminated was 4.59 grams, resulting in a positive nitrogen balance of 0.69 gram per day. In the second subject, the urine contained, during the last three days, an average of 2.87 grams of nitrogen per day; the faeces contained 1.02 grams, giving a total excretion of 3.89 grams and a positive balance of 1.39 grams per day.

A very interesting series of experiments was carried out by Siven on himself,<sup>25</sup> which illustrates very clearly the relationship that ordinarily obtains between the nitrogen of the food and that of the urine. The heat value of his food was over 40 calories per kg. of body weight.

	Series 1.	2.	3.	4.	5.
Nitrogen intake. . . .	12.69	10.35	8.71	6.26	4.52
Output in urine. . . .	9.44	7.53	6.13	4.62	3.40

From the summary of his results, as presented above, we see how closely the curve of the latter follows that of the former.

These experiments of Hirschfeld, Klemperer and Siven are typical ones and are selected from among a great many. They are brought in at this point to illustrate the following facts:

1. That a normal individual, on a diet containing a caloric supply sufficient for the maintenance of body functions (39 calories per kg.), and containing an amount of nitrogen equivalent to 0.057 gram per kg. of body weight, is not sufficient for the maintenance of nitrogenous equilibrium. The urinary nitrogen calculated per kg. of body weight was 0.065 gram per day (Hirschfeld 1).

2. That the same individual, on a diet having a heat value of 47 kg. per body weight and 0.102 gram of nitrogen per kg. of body weight, did maintain nitrogenous equilibrium. The urinary nitrogen calculated per kg. of body weight was 0.079 gram per day (Hirschfeld 2).

3. That by doubling the caloric value of the food, protein catabolism can be so greatly reduced that the administration of 0.083 gram of nitrogen per kg. of body weight will not only be sufficient to cover the cells' needs, but will also be associated with a positive nitrogen balance. The urinary nitrogen in those cases was reduced to 0.052 and 0.044 gram per kg. of body weight (Klemperer 1 and 2).

4. That on a constant and sufficient caloric supply the gradual lowering of the nitrogen in the food is accompanied by a gradual decline in the nitrogen output; the difference between the two gradually diminishes as we go down the scale (Siven).

When we come to examine the results of our experiments in the light of the conclusions drawn from Hirschfeld's, Klemperer's and Siven's experiments, we note a very remarkable deviation. Throughout all our studies we notice a marked and continuous disproportion existing between the food nitrogen and the urinary nitrogen. The urinary nitrogen is always much lower than is the nitrogen of a normal individual on the same diet. In Period 6, Patient 8 received 0.075 gram of nitrogen per kg. of body weight. The heat value of the food was only 32 calories per kg. The average amount of nitrogen eliminated during the period of seven days was 0.032 gram per kg. of body weight. *It took over 77 calories per kg. in Klemperer's experiments to reduce the urinary nitrogen of a normal individual to 0.044 gram per kg., while a psoriatic patient eliminated less nitrogen on a diet less than one-half the caloric value of Klemperer's patient.*

The same experiment was carried out in Patient 9, Period 3, in which she received 0.079 gram of nitrogen and 28.5 calories per kg. of body weight. The urinary nitrogen was 0.055 gram per kg.

When compared with Siven's figures (page 895) the results obtained with Patient 3 are very striking.

Periods.	7.	3.	4.	6.
Calories per kg.....	53.6	38.00	38.00	42.00
Nitrogen intake .....	20.54	11.93	6.89	6.89
Nitrogen in urine.....	8.23	6.32	3.90	3.30

All this shows very plainly that *on a given diet, a psoriatic patient eliminates less nitrogen in the urine and that it takes a much less energy supply in the form of food to keep the urinary nitrogen at a low level than it does in a normal individual.*

This problem is so intimately related to the question of nitrogen retention that we shall now proceed to a discussion of the latter subject.

#### NITROGEN RETENTION.

Closely associated with the condition of lowered nitrogen elimination in the urine we find a high degree of nitrogen retention. This retention is evident in Patient No. 3 throughout her entire stay of 128 days in the hospital. The nitrogen in the food was 492 grams in excess of that eliminated in the urine and faeces. After subtracting 89.6 grams of nitrogen eliminated by the skin (see page 820), there remains a net positive balance of 402 grams. A careful perusal of the columns of nitrogen balances and nitrogen in the food, reveals a great many interesting facts, the most important of which we consider the remarkable sinking of the urinary nitrogen with any reduction in the food nitrogen.

Patient No. 4 lived in the hospital for 42 days and she retained 129 grams of nitrogen during this period; Patient No. 5 retained 86 grams in 40 days. Patient No. 7 was kept on a high protein diet throughout his stay in the hospital (59 days) and in this period he retained 286 grams of nitrogen. The *quantities* of nitrogen retained do not present as remarkable a feature as do the *conditions* under which positive nitrogen balances have been maintained. From a careful study of the conditions in which nitrogen is retained normally, we are forced to some definite conclusions which seem to explain the very marked nitrogenous retentions in psoriasis.

#### NITROGEN RETENTION IN NORMAL ADULT INDIVIDUALS.

Reference has already been made (page 807) to the statement that if the quantity of protein intake, in an individual who maintains nitrogenous equilibrium, is steadily increased, the nitrogen elimination (catabolism) of that individual will increase correspondingly, until an equilibrium is struck on a higher level. *Under these conditions the animal body shows a remarkable stubbornness in refusing to store or retain any of the ingested nitrogen.* To quote Pflüger, who has done an enormous amount of work on this subject: "Ganz wunderbar und rätselhaft ist die ungeheure Anstrengung,

welche der Körper macht, um das wertvolle überschüssige Eiweiss, möglichst vollständig zu zerstören."

Bischoff and Voit<sup>26</sup> were the first to discover that the non-nitrogenous food stuffs have a marked sparing influence on protein catabolism. The question then naturally arose: if the body tends so very strongly to the establishment of nitrogenous equilibrium by raising the catabolism to equal the intake and if the giving of a high caloric diet in the form of carbohydrates and fats tends to depress the catabolism of the protein, the intake remaining the same, then there must, judged from a priori reasoning, follow a storing of nitrogen in the body. If so, to what extent, and in what form? These questions were raised by von Noorden,<sup>27</sup> and Krug,<sup>28</sup> working under his direction, attempted to find an answer to them. Krug was a young man weighing 59 kg. He placed himself on a diet consisting of 2590 calories (44 calories per kg.) and for 6 days maintained nitrogenous equilibrium on a level of 14.8 grams. Then for a period of 15 days he increased his food by 1700 calories, making a total of 4290 calories per day (71 calories per kg.) and remained on approximately the same amount of nitrogen as before (15.4 grams). This tremendous excess of food—carbohydrate and fat—cannot be burnt unless there is a demand for it by greatly increasing the activity of the body, for, as von Noorden expresses it, "Luxus-consumption giebt es nicht." There takes place, therefore, a storing of all the extra material in the form of glycogen and of fat, principally fat. Associated with this storing of material, there is also a "tying-up" of nitrogenous material, a "laying-on" of protein, which manifests itself in a positive nitrogen balance, *i. e.*, a deficit of nitrogen in the urine and feces. In Krug's experiment there was a diminution in the nitrogen output to the extent of 3.3 grams per day, totaling for the 15 days 49.5 grams of nitrogen = 309 grams of pure protein.

There are two facts in this experiment which we wish to emphasize and to bring clearly to the reader's mind:

1. The tremendous energy supply (71 calories per kg., or double the normal requirements) that was necessary to bring about a sparing of 3.3 grams of nitrogen per day.

2. The relatively small amount of protein that was retained, compared with the total retention of non-nitrogenous materials. Von Noorden calculates that Krug stored 2606 grams of fat during this period and only 309 grams of protein.

This experiment is so convincing that we need not present any additional data for the demonstration of the point that, while in

a full-grown, healthy adult, a retention of protein is possible, it can be accomplished only by a tremendous amount of "pressure" in the form of a high supply of potential energy in the food, much in excess of the requirements—an amount clearly bordering on the physiological limits of one's ingestive capacities. It is impossible to conceive of any prolonged storing of protein in healthy individuals, because it is impossible to conceive of a prolonged continuance of such high ingestion of food, without ultimately resulting in the rebellion of the digestive and resorptive apparatus.<sup>29</sup>

#### NITROGEN RETENTION IN GROWING AND CONVALESCENT INDIVIDUALS.

When we turn our attention to nitrogen retentions in the growing child, or in convalescents, an entirely different picture presents itself. From the works of Rubner and his collaborators,<sup>30</sup> it is apparent that the growing child retains nitrogen with remarkable ease, even though the caloric and protein supply of the food is but slightly above the lowest requirements—wear and tear quota. Nay, nitrogen retention takes place in the growing child even on a diet insufficient to cover the heat loss. They, therefore, draw the conclusion that in the growing child (contrary to the adult) the power of nitrogen retention is not determined by the amount of nitrogenous and non-nitrogenous food, but by the "growth impulse" ("Wachstumstrieb").

The observations made on the convalescent patient with regard to his ability to store nitrogen, are very similar to those made on a growing child. A great many experiments have been performed by different investigators which prove this point. We shall here report a few of the most interesting.

Friedrich Müller<sup>31</sup> had the opportunity of studying the metabolism of a 19-year-old girl, who suffered from œsophageal stenosis, as a result of swallowing caustic soda with suicidal intent. For a period of 8 days (about a month after the accident) she could partake of no food. During the last four days of this period, the urine and fæces were collected and analyzed. During the next 5 days it became possible to overcome the stenosis by means of a narrow stomach tube and the administration of liquid food, milk and eggs, became possible. During these five days the patient received an average of 7.6 grams of nitrogen per day, with a caloric supply of 765 calories per day (24 calories per kg.). *On this low diet the patient retained an average of 1.7 grams of nitrogen per day.*

During the following 7 days the nitrogenous intake was 8.99 grams per day and the fuel value of the food was 881 calories per day (27 calories per kg.). The nitrogen retention continued to the extent of 1.9 grams per day.

In their experiments on typhoid convalescents, Luthje and Berger<sup>32</sup> obtained nitrogen retentions during the first five days of the experiment in a patient who was on a diet containing not more than 38 calories per kg. of body weight. The nitrogen retention was to the extent of 3.5 grams per day. We do not include their other experiments in which retentions of 10 grams of nitrogen per day were obtained, because the caloric supply was higher than the requirements.

Benedict and Suranyi<sup>33</sup> carried out some beautiful experiments on typhoid convalescents and obtained a retention of 237 grams of nitrogen in the course of 33 days, with the patient on a diet of approximately 3200 calories per day. (Unfortunately, the patient's exact weight is not given.)

These experiments show conclusively the differences that exist in the nitrogen-storing capacities of the normal individual and the convalescent, who has just passed through a prolonged illness associated with undernutrition and, principally, loss in body protein. They show with what velocity and comparative ease the convalescent's body can store nitrogen and, also, for what prolonged periods.

#### NITROGEN RETENTION IN PSORIASIS.

When we come to examine the character and extent of the nitrogen retention in the psoriatic patient, in the light of the aforesaid, we cannot fail to observe the similarity that obtains between the behavior of the psoriatic and that of the convalescent, with reference to the ease with which each can store nitrogen in large quantities and for long periods of time.

The continuous storing of nitrogen in Patient No. 3 resembles Benedict and Suranyi's cases in almost every particular.

The retention of 2.5 grams of nitrogen per day in Patient No. 8, Period 3, when receiving an average of 7.08 grams of nitrogen and only 26.4 calories per kg., is almost an exact duplication of Friedrich Muller's case, which was certainly in a very bad state of undernutrition.

When we add to this our experience with the superimposed milk feeding of 500 and 1000 cc., fed in addition to a standard diet and our failure to find any evidence of catabolism of this extra nitrogen



in the urine, we feel inclined to believe that *patients with severe psoriasis present a state of remarkable protein undernutrition*, which we choose to call "specific nitrogen hunger" (see page 902). Because of this nitrogen hunger, they possess the power of retaining nitrogen to a most marked extent, even under conditions in which a normal individual would find difficulty in maintaining equilibrium.

The following questions now present themselves: Wherein is the cause of this "nitrogen hunger" to be sought; what is the relationship between the psoriatic lesion and the nitrogen hunger; what causal relationship may they bear to each other? Then, what becomes of the retained nitrogen, where does it go, and in what form is it retained?

Answers to these questions may be found in an analysis of the results obtained in Patient No. 8 (Table 5), in Patient No. 9, and in the pathological histology of the psoriatic lesion.

Patient No. 8 lived in the hospital under our observation for a period of 44 days. During this period she ingested 293.4 grams of nitrogen. For the same period she eliminated in the urine and fæces, 210.6 grams, leaving an apparent positive nitrogen balance of 82.8 grams. There is no doubt that this nitrogen is retained in the form of protein. The question is, where is it retained?

To properly understand this point, we must recognize a very important series of facts which deal with the pathology of psoriasis. Disregarding the differences of opinion that exist with regard to the seat of the primary lesion of psoriasis, all are agreed that there are evidences of inflammation in the papillary layer of the corium and that the rete mucosum is hyperplastic. *The epithelial cells proliferate with great velocity, push toward the surface, become cornified and are finally exfoliated.* The chief constituents of these epithelial cells are proteins, which must be obtained by the cells from the blood. To realize the extent to which this proliferation may occur and to appreciate the amount of protein that may thus be removed from the blood and ultimately from the cells of the body, we shall state that during her stay in the hospital we collected 446 grams of scales, exfoliated by this patient's skin, and this amount does not represent the full amount of scaling, for a quantitative collection is almost impossible in a case like this, because of the fineness of the scales and the difficulty of collection. The nitrogen content of the collected scales varied from 11.8 to 14.4%. *Almost pure protein!* The total amount of nitrogen in the scales was 58.38 grams. We have no idea how much nitrogen this patient lost through the scales before she came to the hospital. Judging

from the amounts we obtained, the total loss must have been enormous.

In what way does the loss of nitrogen in the scales influence the total nitrogen metabolism of the body? This question is answered very clearly in the following experiment:

Patient No. 8, who scaled very profusely, and Patient No. 9, who scaled only moderately, were placed on the same diet during the period of May 30th to June 5th. The figures for the week follow:

Patient	Weight	Nitrogen ingested	Nitrogen in faeces	Nitrogen in urine	Nitrogen in scales	Net nitrogen balance
No. 8	58.4	30.70	13.78	13.16	8.75	— 4.99
No. 9	54.6	30.04	13.54	20.94	2.47	— 6.91

The amount of nitrogen ingested and the amount of nitrogen in the faeces were similar in these patients, but there was a great difference in the amounts of nitrogen in the scales. Patient No. 8 lost 6.28 grams more in the scales than Patient No. 9 did, and she eliminated 7.78 grams less in the urine. *If we assume the nitrogen in the urine to represent the end products of protein metabolism of the cells of the body, we see very clearly to what an extent the condition of the skin influences the total protein metabolism. The proliferation and rapid growth of the epithelial cells of the skin deprive the cells of the body of their nutrient material and force them to subsist at a starvation level. During the course of the week only 13.16 grams of nitrogen were eliminated in the urine, an average of 1.88 grams per day, or 0.0323 gram per kg. of body weight. This is the very lowest figure that has ever been reported for an individual under similar conditions of nutrition.*

The proliferation and growth of epithelial cells takes place throughout the entire period of the disease, commencing, in all probability, long before exfoliation begins. For this growth of cells, protein is required, which is abstracted by the multiplying epithelial cells from the blood stream, in quantities proportional to the severity of the disease. This constant drain of protein from the body into the skin, where it becomes "fixed," gradually causes the impoverishment of the body in protein producing a condition of "specific nitrogen hunger."

If at any time during this process a study of the protein metabolism is instituted, nitrogen retention will be evident. This retained nitrogen can go in one or in two places, depending upon the stage of the disease and upon the protein status of the patient. It may

be carried to the epithelium of the skin to become incorporated in the proliferating cells and finally be given off as exfoliated scales, or it may be carried to the cells of the body, especially to the muscle cells, which have become impoverished of their protein. The nitrogen may be deposited in the muscle cells of a psoriatic patient, as it is in a convalescent patient after a prolonged illness. In both classes of patients a positive nitrogen balance takes place.

This theory seems to be in harmony with many of the facts and seems to explain the cause of the remarkable and prolonged nitrogen retentions.

#### INFLUENCE OF A LOW PROTEIN DIET ON THE COURSE OF PSORIASIS.

On carefully reviewing the clinical histories of our patients, one cannot fail to notice that the low protein diet exercised a distinctly beneficial influence on the course of the disease. Conversely, a high protein diet had a strong tendency to exacerbate the condition.

How can we explain these relationships? In what way can we conceive of the low protein diet influencing the patient's skin?

Bulkley,<sup>34</sup> who long ago recognized the favorable influence of a low protein or vegetarian diet on the course of psoriasis, endeavored to construct a theory of disturbed protein catabolism. He deserves credit for his recognition of the influence of various dietary regimes on the course of the disease. The analytical data, however, upon which his theory is based would not stand scrutiny in the light of modern scientific and experimental research.

We believe that the following consideration offers a satisfactory explanation:

One of the most prominent features of the histology of psoriasis is the rapid growth and proliferation of the epithelial cells of the skin. For the present, we may leave out of consideration the primary ætiologic factor. But one thing must be clearly understood: for their growth and life, these cells require building material, which can be obtained from only one source—the blood and lymph streams. The principal building material required by these cells is protein. It is at once evident that since these cells are endowed with a powerful "growth impulse," "Wachstumstrieb," the velocity of their growth will be directly proportional to the amount of "building material" in the form of protein, that is placed at their disposal. A high protein diet therefore stimulates their growth, because it provides all the necessary components of the epithelial cells.

By keeping the patient on a low protein diet, on an amount

just enough to cover the body's "wear and tear" quota, we bring about a condition in which no extra protein can be supplied to the rapidly multiplying cells of the skin. If the "growth impulse" of these cells were not so great, this point would, in all probability, mark the end of the disease. May it not be possible therefore, that the rapidly growing cells in psoriasis, like those of malignant growths, have the power of preying on the rest of the body, withdrawing protein from the blood, and then the blood in turn attacks the protein storehouses—the muscles? This may go on for a long time until the body's protein reserve is exhausted, when the growth of the epithelial cells, patches and scalings becomes checked. A similar process has been described in the classic researches of Miescher.<sup>35</sup> He found that during the salmon's migration up the Rhine, they suffer from complete starvation. During this period their genital organs become remarkably proliferated, whereas the muscles lose up to 50% of their protein content. This is an illustration of the rapid growth of one tissue at the expense of another in a starving animal. The high "growth impulse" of the testicular tissue is the determining factor.

In the psoriatic patient the same thing may take place, but to a lesser degree. The epithelial cells of the skin keep on growing as long as there is "available" or "mobilizable" protein in the system. When this is exhausted, their growth is checked. *And this, in our estimation, may account for the frequent spontaneous improvements in cases of psoriasis.* By keeping the patient on a low protein diet, we hasten this point of "exhaustion." We hasten the slow starvation of the epithelial cells. By keeping the patient on a high protein diet, we stimulate the growth of the epithelial cells and thus delay improvement. (See Patient No. 7.)

We find additional support for this theory in the following clinical observations of S. Jessner:<sup>36</sup> "Von altersher herrscht die Anschauung, dass die Psoriasis vornehmlich Kräftige, muskulöse, sonst gesunde Individuen befallt. Dies ist im allgemeinen richtig, wenn auch Ausnahmen nicht allzu selten sind. Zuweilen kann man feststellen, dass bei kräftigen Personen eine vorhandene Psoriasis schwindet, sobald sie von einer schwereren Krankheit heimgesucht werden und Körperlich herunterkommen. Erholen sie sich später, dann erscheint die Psoriasis wieder auf die Bildfläche."

Similar observations have been recorded by various writers who have reported the disappearance of psoriasis in patients suffering from acute infections, only to return after the infectious disease has subsided.

These facts lend support to our theory, because they show that every condition that is associated with increased protein catabolism or diminished protein ingestion results in improvement of the psoriasis.

An analogy was previously drawn between malignant growths and the growth of the epithelial cells in psoriasis. Biologically, the two seem to have a great deal in common. The difference appears to be one of degree only. Both are endowed with great growth impulse and power of proliferation, both have the power of living on and multiplying at the expense of the cells of the host. The difference between the two is that by exhausting the reserve depots of protein, the psoriasis will always be checked because its "growth impulse" is not as great as is that of the malignant tumors, which will go on growing until they bring about a toxic disruption of the cells of the host. Powerful as is the action of malignant tumors in this respect, it was recently shown by J. E. Sweet, Corson-White and Saxon, in a beautiful research,<sup>37</sup> that even the growth of adenocarcinoma of the rat and carcinoma of mice may be checked by an improper and insufficient protein supply.

#### THE RELATIONSHIP BETWEEN RETAINED NITROGEN AND GAIN IN BODY WEIGHT.

On examining the influence of nitrogen retention on the body weight of our patients, we found that in most cases there was no relationship at all; that the retention of even large quantities of nitrogen may not be accompanied by any gain in weight.

On admission to the hospital, Patient No. 3 weighed 40.85 kg. When she left, after a stay of 128 days, she weighed 42.2 kg. During this period, she retained a net amount of 402 grams of nitrogen, which is contained in 2512 grams of pure protein. Her body weight should have increased by at least that amount, leaving aside the amount of water that would be necessary to dissolve the protein to the consistency of the cell. A similar lack of proportion was found in Patients No. 4 and No. 5. But Patient No. 7, who was kept on a high protein diet throughout the course of the experiment, retained 286 grams of nitrogen—1.79 kg. of protein. During this same period, the patient gained 1.4 kg. in weight.

Observations of this kind are not new in physiological literature. Bischoff and Voit<sup>38</sup> recorded them as early as 1860, but that the lack of proportion could be as great as was observed in Patient No. 3 was most surprising.

Bischoff and Voit<sup>39</sup> fed a dog on bread for 41 days and during this period the animal lost an amount of protein corresponding to 3717 grams of flesh. The total loss of body weight, however, was only 531 grams. The difference was made up by retention of water. As the animal's state of nutrition began to improve by the ingestion of 1800 grams of meat per day, the water was rapidly eliminated. The results obtained on the first day of the meat feeding are very interesting. In spite of this tremendous food intake the animal lost 310 grams in weight and the urine itself contained 120 cc. more water than was ingested.

Very striking, also, is Lüthje and Berger's<sup>40</sup> experiment No. 3, in which their subject received food with a fuel value of 72 calories per kg., and 49.6 grams of nitrogen per day. The amount of nitrogen retained per day was 11.4 grams and the amount of fat that was stored must have amounted to at least 200 grams per day. In the first four days there was a retention of at least 800 grams of fat and 285 grams of protein, 1085 grams of material in all, and in spite of this retention, the subject's weight was 0.6 kg. less than when the experiment started.

This lack of relationship between an actual gain in body material and a failure to show it in a gain of body weight, can be accounted for by assuming a variation in the amount of water in the tissues. That the relative amount of solid material decreases in muscle tissue in starvation, was shown definitely in Rubner's laboratory.<sup>41</sup>

The following changes were found in the muscle of fasting animals:

	Normal		Fasting	
	Solid	Water	Solid	Water
	22.87	77.13	18.73	81.27
	23.65	76.35	17.99	82.01
Average	23.26	76.74	18.36	81.64

This table shows very plainly that in starvation the relative amounts of water may increase very considerably. Of course, we must bear in mind that our patients did not suffer from any deprivation of food, but from specific nitrogen hunger. What the influence of this condition may be on the water content of the cells will be the subject of our inquiry in the immediate future.

#### RESUMÉ OF THE CLINICAL RESULTS.

The primary purpose of our physiological studies was to ascertain whether any deviation from normal occurred in the metabolism of psoriasis patients. We have seen that a disturbance of the nitro-

gen metabolism does exist in psoriasis, more particularly in severe cases. We have demonstrated that such patients quite constantly retain nitrogen and that this element is needed for the proliferation of the epithelial cells of the skin. Indeed, without a bountiful supply of protein from the blood and tissue juices, such rapid cellular growth as occurs in psoriasis would be impossible.

We felt, therefore, that an eminently important as well as practical aspect of our studies was to note the effect on the psoriasis eruption of diets containing different amounts of nitrogen. Such observations require adequate time for each experiment, as a dietary regime continued for only a short period might readily lead to confusion of interpretation. From our observations, *we are strongly inclined to believe that a high or even relatively high nitrogen diet has a baneful influence on psoriasis.* In four of our patients (Cases 3, 4, 5 and 7), in whom this experiment was tried, an aggravation of the eruption occurred. With the exception of one patient (Case 7), it was impossible to continue the high nitrogen diet for a prolonged period, owing to the fact that we could not interne our patients in the hospital for a sufficient period of time and, moreover, because of the prejudices of the patients who feared the influence of such a diet. In Case 3, a rapid extension of the psoriasis occurred in the early days of her hospital sojourn, while she was taking a relatively high amount of nitrogen. Many weeks later, after marked improvement had taken place, so that but insignificant vestiges of the disease remained, a high nitrogen diet was resumed for several weeks without apparent harm; at this time, however, the patient was eliminating nitrogen better than at any period of our observation. Whether one can stimulate the outbreak of psoriasis in a psoriatic patient free of the eruption, we have not had the opportunity of determining. We shall continue our observations on the influence of a high nitrogen diet upon psoriasis patients in order to settle this question.

We were in a better position to determine the influence of a low nitrogen diet upon the activity of the psoriatic process, because of the fuller coöperation of our patients. Although this diet meant a greater deprivation of articles of food to which they were accustomed, still they preferred this regime, as in their own opinion it was conducive to their improvement. *We feel that there can exist little doubt as to the favorable influence of a low nitrogen diet on the eruption of psoriasis.* This is more strikingly seen in severe cases, for in such patients improvement is more rapidly and readily evident. In support of our conclusion, we place in evidence the photographic

records of Cases 3, 5, 6 and 8, in whom the improvement was striking if, indeed, not remarkable. It would appear that the milder the case, *i.e.*, the more limited the eruption, the less pronounced and the less immediate is the influence of a low nitrogen diet. Some of our mild cases exhibited only a moderate degree of improvement.

It is well known that psoriasis is a disease subject to variations, both improvement and exacerbation, without known cause. The question might pertinently be asked whether the improvement could not have been mere coincidence, or, whether other factors could not have been responsible for the improvement observed. We have many times asked ourselves this question. It would be difficult to account for our results on the basis of pure coincidence. The sequence of events was too direct and the number of striking improvements reached too high a proportion to admit of such an explanation. Furthermore, all must concede that the changes for better or worse in psoriasis are not in reality spontaneous merely because they occur without apparent cause.

After carefully studying our patients and thoroughly scrutinizing all of the environmental conditions, we have been forced to eliminate the latter as influencing factors. It will be recalled that Case 7 was studied as a control in order to determine whether freedom from physical labor and from mental harassment, in a quiet private room in a hospital, could have accounted for the improvement in some of the other patients. But this patient (who was placed on a high nitrogen diet) was, after 84 days residence in the hospital, worse than upon admission. It is interesting here to note that this patient made decided improvement with respect to the nervous disorder (chorea) from which he was suffering, at the same time that his psoriasis was growing gradually worse. This observation does not lend any support to the theory of the neuropathic origin of the disease, which is held by a number of writers. On the other hand, Patient No. 3, was frequently in a highly nervous and apprehensive state, with numerous crying spells and periods of depression, and yet her eruption improved to the point of virtual disappearance.

In Figs. 23 and 24 are contrasted the eruptions in the case of a young man who was treated in the dispensary. He received no internal or external treatment of any kind whatsoever, but was placed upon a low nitrogen diet, which he faithfully carried out. The eruption entirely disappeared in two months, leaving pigmented spots which subsequently faded away. The second photograph was taken in the month of May.

The enormous proliferation of the epithelial cells of the rete



PLATE XXXIX.—To Illustrate Article on Research Studies in Psoriasis,  
by Drs. SCHAMBERG, KOLMER, RINGER and RAIZISS.

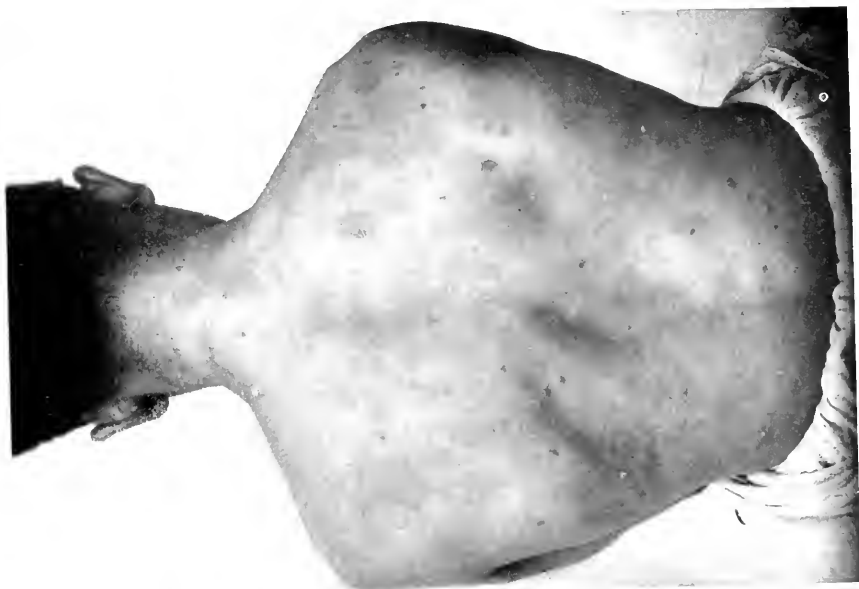


Fig. 24.

Dispensary patient.

Disappearance of eruption in two months on low protein diet. No internal or external treatment whatsoever.



Fig. 23.

Dispensary patient.



mucosum in psoriasis and their exfoliation from the skin after they have been cornified, creates a great demand for protein. This protein can only be supplied through the blood and lymph streams. The diverting of the food protein to this purpose naturally lessens the amount catabolized in the system and eliminated in the excreta. Nitrogen retention may in considerable part be explained by the loss of protein through scaling. But this does not explain the entire retention because (1) the deficit of nitrogen in the excreta is greater than can be accounted for by the amount lost through the skin; and (2) we have, in a most thoroughly studied case, observed a considerable retention of nitrogen after the scaling had ceased and the eruption had virtually disappeared.

This retention is difficult to account for. It is possible that the skin, during its great proliferative activity, may call upon the mobilizable protein in the muscles and other tissues and that, later, this reserve protein may be restored from the food protein ingested.

A nitrogen retention having been established to exist in psoriasis, the question presents itself—is the nitrogen retention primary and to be regarded as the aetiological factor, or one of the aetiological factors in the causation of the disease, or is it secondary to the pathological changes in the skin? This question cannot be definitely settled at this stage of our investigations, although the latter proposition appears to be more in harmony with the demonstrated facts.

In the present stage of our research studies we are unable to set up an hypothesis as to the cause of the disease without departing from the domain of fact and entering the realm of conjecture. We are content to present our laboratory findings and set forth the results of our clinical observations. We are still in the midst of our pathological and metabolic studies and many problems must be solved before any definite pronouncement as to the nature and cause of psoriasis can be safely made.

#### SUMMARY AND CONCLUSIONS.

A careful study was made of the protein metabolism of eight psoriasis patients and the following observations were made:

1. That on a given protein diet a psoriatic subject eliminates less nitrogen in the urine than does a normal individual on a corresponding diet. The urinary nitrogen in some of our patients reached a level lower than has ever been recorded.

2. Patients suffering from psoriasis exhibit a remarkable re-

tention of nitrogen. This retention appears to be proportional, in a general way, to the extent and severity of the eruption present.

3. The nitrogen is retained to a greater degree than has been observed in connection with any other condition and is, furthermore, retained with great ease even on a diet low in nitrogen and insufficient in caloric value, and one on which a normal individual would fail to maintain equilibrium.

4. Experiments with urea feedings show conclusively that the nitrogen retention cannot be attributed to any disturbance in the eliminative capacity of the kidneys.

5. Patients with extensive psoriasis may lose very large amounts of nitrogen in the exfoliated scales, which consist of almost pure protein.

6. The retention of nitrogen in most of our cases was greater than could be accounted for by the protein lost in the scales, and it may persist even after scaling has ceased and the eruption has virtually disappeared.

7. A low nitrogen diet has a most favorable influence upon the eruption of psoriasis, particularly when the latter is extensive. Making all reservation suggested by scientific caution, we feel that there can be no doubt that severe cases of psoriasis improve under such a diet, almost to the point of disappearance of the eruption.

8. Conversely, a high nitrogen diet exhibits an unfavorable influence on psoriasis, commonly causing an extension of the eruption.

9. Whether a high nitrogen diet can stimulate an outbreak of psoriasis in a psoriatic subject, who is at the time free of the eruption, has not yet been determined.

10. The great proliferation and exfoliation of cells by the skin in psoriasis demand a large supply of protein, which can only be procured from the lymph and blood streams. This protein supply may be derived from the ingested food, and a possibility exists that the great demand of the diseased skin for protein may also be satisfied by the protein reserve in muscle tissue, which thus may become depleted and later require restoration. This would explain the ready and persistent retention of nitrogen in our cases.

11. A protracted, low protein diet may diminish the proliferative activity of the skin by diminishing the supply of the principal building material, namely, protein. On the other hand, a high protein diet may stimulate the proliferative activity of the cells by furnishing an abundant supply of the necessary protein.

12. We deem it premature at the present stage of our studies to commit ourselves to an hypothesis as to the primary cause of

psoriasis. Our studies are being continued and extended in various directions.

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## DISCUSSION.\*

DR. RINGER said there was very little to add to Dr. Schamberg's paper excepting to emphasize one point which had not been sufficiently dwelt upon and which was of such singular importance, namely, the relation between the nitrogen retention and the weight. The normal individual, while attending to his ordinary work, required 33 calories per kilogram every 24 hours. The girl whose figures were given on the tabulated chart shown by Dr. Schamberg, while doing nothing but sitting in the hospital all day long, received 40 and later 50 calories per kilogram. We cannot utilize any more food than is required for the supply of energy to the cells of our body. The excess must be stored up in the tissues, which means that this patient had had plenty of food to store up in excess of what she actually consumed. This girl, from protein alone, should have weighed 50 kilograms, to which should be added the amount received from the food, but this expected increase in weight did not occur. It was possible, perhaps, that a corresponding amount of watery material was lost, or that fermentation took place in the intestinal tract which reduced the food into a gaseous material and which could not be collected, or that a certain amount of material may have been given off by the skin.

No sources of error could be found in the methods of the experiments; this could be seen when we compared these results with the figures in Chart No. 2. Here we had another individual, entirely healthy and free from psoriasis, who under the same diet, both quantitative and qualitative, showed a normal nitrogen elimination. This seemed to prove that there were no sources of error in either case, and seemed to demonstrate how a normal individual should behave on such a diet. In both cases the food was prepared by the same nurse in the same laboratory under the direct supervision of one of the collaborators and the precautions were such that there was no possibility of error.

DR. GILCHRIST mentioned a case of pityriasis rubra pilaris upon which Dr. McElfresh carried out very careful studies in metabolism and the fact was noted that there was great nitrogen retention which could not be accounted for. In that instance, as in the case reported by Dr. Schamberg, the scaling and evaporation from the sweat were considered, but those factors did not satisfactorily account for the nitrogen retention. Under a non-protein diet, the patient improved very markedly.

The speaker said he had been investigating experimentally the subject of psoriasis at the Johns Hopkins for the past ten years. He had found a similar microorganism to that described by Dr. Schamberg, and his assistant, Dr. Ketron, had also found it in other cases of psoriasis, but Dr. Ketron subsequently also found it under ordinary conditions and in normal blood. Years ago, Dr. Gilchrist said, on three or four occasions, he had taken a teaspoonful of the scales of psoriatic lesions and after mixing them in a saline solution had in-

\* This discussion followed the reading of the article in abstract form.

oculated them intravenously into dogs without any effect. He had also tried similar experiments in guinea pigs, intraperitoneally, with the same result. Fluid taken from a recent psoriatic patch and enclosed in celloidin capsules and introduced intraperitoneally into guinea pigs also yielded negative results: in fact, the result of all the work done was negative.

A more careful investigation of the sweat apparatus and the more thorough collection and analysis of the perspiration, reinforced, if possible, by the elimination by the skin of certain drugs, similar to the work now being done to test the functional activity of the kidneys, might yield valuable results in the future.

The speaker suggested to Dr. Schamberg and his collaborators that the work on metabolism should be applied to other chronic, scaly eruptions as well as psoriasis, otherwise the results would be rather narrow.

Dr. HARTZELL said that one could not help being impressed with the extraordinary painstaking character of this work and its value, but at the same time it should be remembered that many forms of metabolic disturbance might produce a temporary disappearance of the lesions of psoriasis; they often disappeared without any known definite reason. We knew that many of these patients were practically free from eruption during the summer, without any change in diet, only to regain it when the cold weather set in. A low nitrogen intake was probably only one of many factors which caused the eruption to disappear. At the same time, this was not to be regarded as an argument against the value of such experiments as had been carried on under Dr. Schamberg's direction.

Dr. POLLITZER said he wished to add his voice in praise of this work, which he hoped would be continued. The part of the work which the reader of the paper evidently considered the most important, was that which dealt with the studies in metabolism, and the speaker said he was glad to hear from Dr. Ringer that he had been struck with the paradoxical result of an enormous nitrogen retention, extending over a period of twenty weeks, without a gain in weight; in fact, with a slight decrease in weight. That was indeed a paradox. The explanation suggested for this discrepancy by Dr. Ringer, namely, that the patient's weight was kept down through the loss of water, would mean that an expected increase of weight amounting to about 25% of the patient's weight was lost through a corresponding condensation of the tissues, a condition absolutely impossible, as the vital processes could not have been carried on under those conditions.

The second idea suggested by Dr. Ringer, namely, that the nitrogen passed off in the form of gas, was equally impossible. The only form in which proteid nitrogen could pass from the body was as ammonia, and the quantities in question here would have made the patient reek with ammonia. Dr. Ringer, the speaker thought, could not mean these explanations to be taken seriously.

The speaker said the only conclusion that one could reach from a consideration of the data presented in this case was that the loss of weight in the face of an enormous nitrogen retention was not a paradox, but was due to some gross error which had escaped the observation of the chemist. It was impossible for the patient to retain nitrogen in such quantities and for such a long period of time and not show a proportional gain in weight. It was impossible to keep on pouring water into a barrel without filling up the barrel,—unless there was a leak. The speaker said that while he had some familiarity with metabolic work, it would be impossible for him to point out where the error had occurred without a detailed study of the protocol and the figures, but the tables presented carried with them their own conviction of error.

Dr. POLLITZER, in regard to improvement in psoriasis under a low nitrogen diet, said that within the past year he had seen two cases of psoriasis treated by the method of a New York colleague on a strict rice diet. In both in-

stances the psoriasis had become a little worse under the treatment, but the chief complaint of the patients was that they were terribly hungry. The eruption disappeared in due course when the patients were given an ordinary full diet and a chrysarobin ointment applied.

DR. KING-SMITH said that in the Toronto General Hospital there had been two cases of rheumatoid arthritis in psoriatic patients. They were referred to Dr. George Ross who, in searching for a local focus, found a follicular tonsillitis in both cases. He gave them an injection of a culture of streptococcus, under which they improved greatly and at the same time the psoriatic lesions improved. With these two cases in mind, Dr. Smith said he associated himself with Dr. Ross in carefully examining every case of psoriasis that came to the hospital and in many of them they found an inflammation of the tonsils due to some variety of streptococcus, while others were suffering from pyorrhoea alveolaris. The patients were put to bed on a low diet and the local focus of infection, either the tonsils or the infected teeth, were removed and autogenous inoculations given and by this treatment, good results were obtained. In patients who received similar treatment, but who were not put to bed, the results were disappointing and Dr. Smith said that he came to the conclusion that the improvement in the eruption was due to the rest and low diet.

DR. GILCHRIST said the improvement of these patients under a low nitrogen intake seemed to be in line with Dr. Bulkley's idea of treating psoriasis.

DR. RAVOGLI recalled a very severe case of psoriasis in a woman who had an attack of pneumonia, in the course of which her psoriasis disappeared, only to reappear four or five weeks after her convalescence. In another case, a man with typhoid fever, the psoriasis pursued a similar course.

DR. SCHWARTZ said he did not feel in a position to offer any criticism on the results of such elaborate work without further study of the figures presented. Certainly the fact brought out by Dr. Pollitzer regarding the loss of weight with such an enormous retention of nitrogen was paradoxical and emphasized the fact that the experiments must be repeated in a number of cases before we could accept them as free from sources of error.

In connection with his studies with Dr. Johnston, in metabolism in prurigo and dermatitis herpetiformis, there was one fact in cases of prurigo under thyroid medication which they were at a loss to understand. It was noted very distinctly that after the attack there was an enormous outpouring of nitrogen that had apparently been stored up. Whether this was due to the thyroid administration or simply a coincidence he could not say.

The work presented by Dr. Schamberg, the speaker said, commanded the admiration of all, as well as envy for the great opportunities that the investigators had enjoyed.

DR. HAZEN said that a number of years ago he had a case of pemphigus foliaceus in the dry stage. The urine and faeces were collected and measured and the diet, which consisted of eggs and milk, was carefully measured. An analysis showed 30% retention of nitrogen, which could not be accounted for in the urine or faeces. The scales were not analyzed.

DR. RINGER said he wished to add a few words in connection with the technique that was employed. Being in a way responsible for the technical part of the experiments, he wished to say that there was no possibility of any error in any of these analyses and he wished to make this statement with all the emphasis at his command. It was possible that the psoriatic patients had some other way of eliminating these nitrogenous bodies, not perhaps in the form of ammonia.

At the same time that this patient was under observation, they had two or three other patients suffering from a milder form of the disease who did not behave in the same way and in whom the analyses, made in precisely the same way, proved to be correct. In all these cases the food was weighed and



recorded by the same person and the food was analyzed either on the same day or on the following day. Nothing was taken for granted; the bread, the butter, everything was analyzed in their own laboratory. Perhaps the future would throw some light on the apparent lack of relationship between the nitrogen retention and body weight.

DR. SCHAMBERG said he was glad to hear the frank criticism of Dr. Pollitzer which in part was well taken. Of course there was a human possibility of error in all investigations, but he did not believe that any error in the analyses or in the calculations therefrom had been made.

The speaker said he would like to emphasize the fact that in a mild case of psoriasis that had been studied, there was a degree of nitrogen retention which was scarcely above the normal and the metabolic picture presented was quite different from that seen in the severe cases. In a normal control studied, the nitrogen balance was just what it should have been. There was no doubt that these analyses were correct, both in the psoriasis subjects and in the control and, while the figures with respect to nitrogen retention and body weight presented an apparent paradox, they were not impossible, but they raised a new problem in physiological chemistry which remained to be solved. After analyzing all of the patient's excretions and secretions, a part of the nitrogen ingested could not be accounted for; this was a uniform finding in all of the psoriasis patients, although the degree of retention varied according to the intensity of the disease. The scales and perspiration were collected with as great care as possible and analyzed with a view to the greatest possible accuracy.

In connection with these experiments, the speaker said, we must not lose sight of the clinical observation that these patients made a decided improvement under a low nitrogen diet and appeared to grow distinctly worse under a high nitrogen diet. It might be contended that the improvement resulted from the physical and mental rest incident to a hospital sojourn, but improvement only took place under a low nitrogen intake. Of course, it was well to know that psoriasis improved at times during the course of acute illnesses and under varying conditions; but what did that signify? Improvement did not take place without cause; in our imperfect and inadequate knowledge we were wont to speak of spontaneous improvement, without endeavoring to search for the subtle underlying cause of the same.

The speaker said that the experimental work would be continued and that the results, no matter what they were, would be reported.

ANGIOMA SERPIGINOSUM (INFECTIVE ANGIOMA OF HUTCHINSON), WITH A REPORT OF A VERY EXTENSIVE CASE.\*

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Histological Report by S. POLLITZER, M.D., New York.

*(Continued from page 739.)*

DESCRIPTION OF THE DISEASE.

CROCKER (Diseases of the Skin, 3rd ed., ii, p. 970) defines angioma serpiginosum as "a disease in which minute vascular points are formed in rings or other groups, which spread at the borders, while fresh points are continually developing beyond them." In describing the appearance of the eruption, he says that: "It consists of minute, bright-red, vascular points imbedded in the skin, 'like grains of cayenne pepper.' These are formed into small groups which spread peripherally, clearing up in the centre and thus forming rings not exceeding half an inch or so across, but in the border the vascular dot character of the components of the ring is always preserved. Fresh points are continually developing a little beyond the patches (infective satellites, as Hutchinson calls them) and thus the process is continually repeated and, the rings meeting, large areas of disease with gyrate borders are produced. Scattered 'cayenne pepper' dots and lines of them, are seen beyond the main patches, and the skin between the rings is generally pinkish in hue. . . . The dots vary from the diameter of an ordinary pin's head to some so small as only to be visible with a lens. Most of them are bright and pale on pressure, but the larger-sized ones are purplish in hue and often unaltered by pressure. In three out of the first four cases, scarring was certainly absent and Hutchinson was not sure about it in the fourth case."

This definition and clinical picture coincided fairly well with the seven or eight cases of the disease, descriptions of which Crocker had at his disposal at the time. There were some deviations from

\* Read before the Section on Dermatology of the 64th Annual Meeting of the American Medical Association, Minneapolis, Minn., June, 1913.

this classical type of the disease, however, as shown by the cases in which there is a complete absence of the minute red spots upon which Hutchinson and nearly all subsequent reporters laid so much emphasis. A case of angioma serpiginosum without the "cayenne pepper" spots was reported by Francis; another one by Dockrell; while of the three cases embodied in this paper, I was able to find distinct vascular puncta in only one of the patients. The great majority of the cases, however, begin by the formation of little groups of very fine, deep-red and livid-red vascular puncta, which so arrange themselves as to form small annular lesions, or vascular, flat nodules, or irregular lines, varying in length, breadth and outline. By means of a very slow and insidious extension from the edge of existing lesions the process advances, resulting in the junction and coalescence of outlying lesions, to form little rings, or larger gyrate figures, or arborescent lines, which are destined to become a reticulated network of vascular dilatations. Independent groups of lesions, forming the nuclei for fresh patches of the disease, may appear on different parts of the skin; only a small area of skin may become affected, or nearly the entire surface of the body (as in one of my cases) may become involved in the process.

As to the mode of extension of the disease, I think this is still a matter of conjecture. In this connection, Joseph (Mracek, *Handbuch der Hautkrankheiten*, iii, p. 565) says that it is common enough to find a single angioma at birth, which increases in size with the growth of the part of the body upon which the *nævus* is located; now and then an increase in its size takes place through the peripheral extension of its edges. In other cases, however, after a few weeks, several new angiomata may appear, which may assume an annular arrangement and increase in size independently of the body growth, in the part upon which they are situated; or a number of independent, isolated lesions may coalesce, thereby sometimes producing a serpiginous appearance. The centre of the patch becomes lighter in color and may even involute through atrophy; at the periphery, an extension of the angioma takes place—angioma serpiginosum. At other times, however, the peripheral extension takes place without the occurrence of central involution. Such cases are exceedingly rare and only a few instances are found in the literature, contributed by Hutchinson, Jamieson, Crocker, White and Francis (see review of literature). Equally rare as the above, is the type of multiple eruptive extension of an angioma. Such a very rare form is congenital and may cover almost the entire cutaneous surface, remaining unchanged through life. But one case of this type

is described in the literature, reported by Pollitzer (*International Atlas of Rare Skin Diseases*, *Nevus angiectodes disseminatus*, Plate xlii, 1897). This peculiar affection was noticed in the first or second week after birth, in a man of 25 and had shown practically no changes since its appearance.

#### REVIEW OF THE LITERATURE.

The first five cases of the disease were reported by Hutchinson, Sr., in the *Archives of Surgery*, from 1889 to 1892 (references to the literature will be found in the table. The numbers in this review correspond with those seen in the first column of the table). To the present time, 22 cases of *angioma serpiginosum* have been recorded, which number, together with the 3 patients included in this report, makes a total of 25 cases.

I. JONATHAN HUTCHINSON. A Peculiar Form of Serpiginous and Infective Nævoid Disease. Hutchinson's Smaller Atlas of Clinical Illustrations (*West Newman & Co.*, 1895). *Arch. Surg.*, 1889-1890, i, plate ix.

"This portrait, which was taken from the arm of a young lady about 15 years of age, purposes to illustrate a very peculiar condition of serpiginous or infective nævus. Although nævi often increase in size and in number during the first few months of life, it is very rare indeed for the growth to continue to spread. Such, however, was the case in this instance and with the addition of other peculiarities. A very slightly marked port-wine stain was observed at the back of the arm soon after the infant's birth. For some years it scarcely spread at all and no notice was taken of it. It then began slowly to advance and the condition shown in the portrait was gradually produced. A careful inspection of the plate will show that the mode of advance is somewhat peculiar and that it has not been by a continuous edge. It would appear as if little satellite spots had been produced which had spread into circles and, by gradually advancing by infective edges, had coalesced, producing the irregular pattern which is here displayed. Some very good examples of these spreading circles are seen over the elbow, quite isolated from the rest of the disease. These conditions are no ordinary part of nævoid disease. They were extremely superficial and it was even difficult to be sure whether or not they left any state of scar behind them. I have, however, no doubt, that such was their tendency and that in some places, a slightly marked, superficial scar could be demonstrated. The enlarged capillaries could be partially emptied by pressure, but not wholly, and in many places little tufts were distended with deep-purple, venous blood, which could not be pressed out. In this latter condition, as well as in its tendency to serpiginous spreading and the production of satellites, the case closely resembled what is seen in the disease which I have ventured to name *lupus lymphaticus*. This latter malady, although often spontaneous, has been repeatedly observed in connection with port wine stain, and it always shows little tufts of capillaries which cannot be emptied. Its lymphatic element consists in the presence of little vesicles which contain lymph fluid. It is serpiginous, infective, prone to produce satellites and to leave scars, and is thus clearly a member of the *lupus* family. In the present case, there was little, if any evidence of lymphatic disease, but the vascular changes and other features were much like those of the disease referred to, of which I cannot doubt that it is an ally. I have seen several other cases almost exactly like the one now illustrated."

2. JONATHAN HUTCHINSON. A Rare Form of Lupus (Marginatus). *Hutchinson's Archives of Surgery*, 1889-1890, i, plates viii, xiii, and xiv.

These plates represent the portrait of a boy in whom the eruption is pictured on the face. The lesion is angioma serpiginosum. At the time the portrait was taken, Hutchinson believed the condition to be allied to lupus and called it nævoid lupus.

"The morbid condition is a very chronic serpiginous inflammation of the skin, clearly infectious, producing satellites and which, when it underwent involution, left the affected integument in the condition of cicatrix. Such are for me the essential features of a lupus inflammation. It is needless to say again, that it differs in some respects from common lupus, lupus erythematosus and lupus lymphaticus. There are, however, features of family resemblance which are more important than the differences.

"The portrait, as will be seen, shows the face of a fair-complexioned lad, covered with very abruptly margined patches. These patches have delicately tuberculated or lichenoid borders and show a pale, thin cicatrix in their areas. They are plentiful but not quite symmetrical and certainly not arranged in the bat-wing form of lupus erythematosus; nor was there anything which could be definitely recognized as the apple-jelly deposit of lupus vulgaris. The new growth, or effusion, present in the aggressive edge and which preceded the scarring was, in fact, exceedingly small in quantity. There had been no open ulceration."

"Plate xiv represents the left arm of the same patient as above. The lesions extend in a linear disposition on the ulnar side of the entire arm, from the little finger to the axilla."

3. JONATHAN HUTCHINSON. Serpiginous Nævoid Condition in the Skin (Nævus-Lupus). Dr. Jamieson's Case. *Hutchinson's Archives of Surgery*, 1890-1891, ii, p. 71.

"The following notes of a case similar to the one illustrated in Plate ix of my last *Archives* has been kindly sent to me by Dr. Allen Jamieson, of Edinburgh. It will be seen that we have in it an example of an infective nævoid process, spreading by its borders and producing satellites. In these features it approaches lupus. In my case there was a history of a nævoid stain at birth. In Dr. Jamieson's case this history was absent, but for all that there may have been some congenital vascular peculiarity. I give the narrative in Dr. Jamieson's words: A. T., 19, a tall, well-grown lad, came to the Edinburgh Royal Infirmary on Nov. 7, 1888. He stated that three or four years previously, after practicing on the horizontal bar, he noticed a small red spot on the front of the right forearm and since then the marks have slowly but steadily extended. The eruption, if such it can be called, is found scattered over the deltoid region, on the extensor and flexor aspects of the upper arm and forearm, can be traced, though faintly, over the radial side of the wrist and the back of the hand as far as the root of the thumb and forefinger. It consists of minute puncta, some set closely together, so as to form groups; others are isolated; some are arranged in lines. The individual puncta vary in size from the diameter of a small pin to points scarcely recognizable, unless with the aid of a lens. The larger are a dark, the smaller a clear red. In the spaces between the grouped puncta, the skin is stained a faint pink. Pressure causes the smaller ones to grow faint, the staining to vanish, but in a few seconds, the color is restored. There are, also, several groups to be seen running along the inferior margin of the fifth rib on the right side, from one inch inside the nipple, to the margin of the sternum, the largest group lying next the nipple—the puncta here are clear and sharp and have no intermediate staining. There were no subjective symptoms. A small piece was removed from one of the groups of the arm and serial sections were made from it, after hardening, by Dr. Eddington. The horny layer of the epidermis was normal. The rete mucosum was also normal, but processes ran down from this in the spaces between the cones deep into the corium. The vascular loops at the apices of the papillæ

were dilated into wide spaces, some of which still contained blood. The condition was evidently that of a very superficial capillary nævus, spreading by the formation of satellites—the isolated puneta. The process was perhaps started by straining of the minute muscles of the skin in gymnastic exercises."

4. JONATHAN HUTCHINSON. Lassar's Case. *Hutchinson's Archives of Surgery*, 1889-1890, ii, p. 111.

"By far the most interesting to myself of Dr. Lassar's collection was, however, one which was labeled lupus erythematosus and which showed a serpiginous nævoid condition on the forearm and hand of a young child. Plate ix, in the *Archives*, illustrated exactly the same disease and when I published it six months ago, I believed the case to be unique. Dr. Jamieson, of Edinburgh, was good enough, on reading it, to send me the narrative of a similar one, which the reader may find on page 71. The peculiarities of the condition are that an exceedingly superficial, florid stippling of the skin spreads in a serpiginous manner over the limb, during the course of years, producing satellites and leaving very delicate scars. In my case there was the history of a very small congenital nævus as the point of origin, but the young lady, when I saw her, was fifteen and the disease was still spreading. It is clearly an infective process and little outlying discs are produced totally unlike anything which we recognize in ordinary nævus. These discs spread at their edges and become rings. The reader must be good enough to turn to the plate if he would get a good idea of what is meant and he may accept my assurance that Dr. Lassar's model was in all respects exactly like my drawing. In Dr. Lassar's case the disease had spread from above the elbow over the whole of one side of the forearm and to the hand, even to the end of the thumb. The conditions were most pronounced near the elbow and became very faint in the hand, just as will be seen in my portrait. Dr. Lassar named his case lupus erythematosus and no mention was made of nævus; but as it was clearly the arm of a young child, the suspicion that some slightly marked nævus was present at birth is not improbable. I named my case "nævus-lupus," recognizing in the name its origin in a congenital peculiarity and its assumption of infective and serpiginous qualities. I have no doubt that the disease is a near ally of what I have named lupus lymphaticus, for in the latter, in addition to the lymph vesicles, etc., there are little tufts of dilated vessels, just such as are seen here. In these cases, however, there is no lymphatic element, the changes being vascular only. I had, fortunately, my drawing with me in Berlin and had opportunities of showing it by the side of Dr. Lassar's model to Dr. Unna, Prof. Koebner and Dr. Payne, none of whom doubted the identity of the disease in the two cases. In Dr. Jamieson's case, there was no history of congenital nævus, but the patient was young and the condition had begun in infancy, so that it is quite possible that some congenital vascular peculiarity had been present, although not noticed. It is to be remembered, however, that the facts are precisely similar as regards lupus lymphaticus."

5. JONATHAN HUTCHINSON. Infective Angioma or Nævus-Lupus. Mr. Tay's Case. *Hutchinson's Archives of Surgery*, 1891-1892, iii, p. 166.

"Mr. Warren Tay has been good enough to send me another very interesting illustration of this singular condition. It is the fourth typical example of the condition which I have now seen. In the note which accompanied the patient, Mr. Tay describes the skin as being specked over with minute grains of cayenne pepper, which, however, were not perceptible to the touch. The patient was a girl of about 12, a Miss D., from Sevenoaks. It was her right leg which was chiefly affected, the condition extending continuously from the heel to the knee and reappearing in a separate patch on the front of the thigh about a hand's breadth above the joint. The back of the limb was covered over with minute dots of a deep red or almost purplish tint. These evidently consisted of small thrombosed tufts of vessels, for no amount of pressure caused the color to alter. These little spots varied in size, but were all very small indeed. They were closely placed, but

for the most part, discontinuous with each other and not arranged in rings, or in any other definite kind of grouping. They were most numerous on the lower part of the calf where the disease had first commenced, but they were present, also, over almost the whole of the front of the leg. There was no evidence of their having undergone any retrogressive changes and not the slightest trace of a scar could be detected. The patch above the knee was of quite recent development and was exactly like the others, but the dots which composed it were not nearly so closely placed. The patient's mother fancied that she had detected two little spots on the front of the other leg, but about the reality of these I may confess that I felt some doubt. The patient had no *nævi* elsewhere, nor any skin disease, with the exception of a brown mole, about the size of a half-crown, on the right side of the abdomen. This mole was without thickening and there was no trace of vascularity about it. No *nævus* or port-wine stain had been observed on the girl's leg at birth and it was not till she was two years old that the conditions, so conspicuous at present, were noticed. The mother described the first stage as a small group of spots on the back of the calf. These gradually spread up and down the knee, until the conditions now present were produced. The disease had been so steadily progressive in spite of remedies, that the child's mother expressed her anxiety lest it should in time cover the whole body."

6. JAMES C. WHITE. A Case of So-called "Angioma Serpiginosum." *Jour. Cutan. Dis.*, December, 1894, xii, No. 12

"The patient was a boy, 12 years old, of delicate appearance and highly nervous temperament. His mother furnished the following history: At birth a "purplish red mark" was noticed below the right shoulder blade, semilunar in shape, with its curved edge directed upward. Its longest diameter was half an inch. It increased very slowly in size in an upward direction until he was 4 years old, when another spot no larger than the head of a pin appeared near the original one, which gradually became larger and since then the others have continued to appear and grow up to the present time.

"The affected area forms a belt about three inches in width, extending from the anterior edge of the right scapula six inches forward to the nipple, its upper margin being on a level with that point. This region is occupied by some 24 individual lesions, varying in size from a pin's head to circular patches two or more inches in diameter. The process begins in the form of minute elevated points, of a bright-red color, which slowly increase in size until they are an eighth to a sixth of an inch in diameter. At this stage they are elevated from an eighth to a twelfth of an inch above the general surface, are of a bright-red color, varying from scarlet to carmine, which can be made only partially to disappear by long pressure, and are of a firm consistence. Having attained this size they undergo involution at the centre, which slowly sinks down as the growth spreads peripherally. In this way, rings are formed and the disease progresses as an annular, elevated margin, about one-eighth of an inch in breadth, slowly creeping outward, until by confluence with other lesions the regular circular shape is lost. This margin has the same characteristics as the original uniform patch in color, elevation and consistence. Within the ring the skin has apparently returned to its natural condition excepting in color, which remains of a dull purplish or dusky hue. New foci, in the shape of minute points, appear at some little distance from the older areas and assume in time the same annular mode of progression with central involution. Only a very few minute points are to be observed springing up anew in the old central depressed areas."

Histological examinations of White's case were made by Darier and by Councilman and Bowen.

In summing up his findings Darier reported: "It appears, then, that we are dealing with a new formation of capillaries at the expense of the elements of the neoplastic tissue. These capillaries are sometimes perfect, sometimes abortive and, on the other hand, sometimes dilated to a considerable degree. One finds, in

fact, vascular cavities circumscribed by a single row of flat cells and presenting the dimensions of an enormous arteriole. By the side of the capillaries cut transversely, there were others where the section had been made obliquely and longitudinally. The dilated vascular cavities are generally empty, but in some of them more or less altered red globules were observed. A certain number of these dilated capillaries are to be observed in the subpapillary layer of the corium.

"How, then, is this lesion to be classed and what name shall be given it?"

"A neoformation, non-inflammatory, composed of cells of the type of young connective-tissue cells, ought necessarily to bear the name of *sarcoma*. But it will be observed that we are in the presence of an annular form of sarcoma, not massed in a single tumor, but reticulated and infiltrated as a network, which appears to follow the normal distribution of the vessels of the skin. There is, moreover, to be noticed, the tendency which the cells of this sarcoma have to form networks and clusters of more or less dilated capillaries, that is to say, to transform themselves into a true *angioma*. The epithet, angioplastic or vasoformative, would express this peculiarity.

"I will conclude by proposing for this new formation the title: *sarcoma angioplastique reticulé*."

Councilman and Bowen, in the concluding paragraph of their histological report on White's case stated: "When we regard the process as a whole, it would seem evident that it is one intimately connected with the vessels of the skin, affecting certain groups of vessels. This is shown both by the arrangement of the cells in the groups and by the general course and position of the groups. The groups frequently appear in the neighborhood of dilated lymphatics, but the process is one affecting the blood vessels rather than the lymphatics. It would seem to begin by a proliferation of the endothelium of the vessels, accompanied by a corresponding proliferation of the perithelium. The single small masses of cells in the groups with concentric arrangement of the cells around them admit of no other interpretation. The central clumps of cells show every phase of degeneration and the granular masses are evidently to be referred to necrosis and coalescence of these cells. The fact that this degeneration is chiefly seen when the cells are few in number and when the process is evidently of older date seems to show that with the advance of the cell proliferation in the vessels there are at the same time degenerative processes going on, leading to the destruction of the vessels and the cessation of the circulation. No complete new formation of blood vessels is apparent. Where the cells are thickest, the process shows a certain degree of activity, which can be judged by the presence of nuclear figures. From a purely histological consideration of the growth it may be compared to an angiosarcoma, it being understood that with this name only the histological appearance is taken into consideration. The cause is possibly to be referred to that underlying tumor formation in general, it being due to some anomalous congenital condition of the vessels. There is nothing in the histological characters which would lead us to regard it as in any way analogous to the infectious tumors."

7. CROCKER. Case presented before the Dermatological Society of London. *Brit. Jour. Dermat.*, 1894, vi, p. 367.

"Crocker showed a case at the Dermatological Society of London in 1894. The patient was a woman aged 28, with three or four rings, the size of a sixpenny piece, on the forehead and one of the left cheek. They had been present two months, but one on the right side over the lower jaw appeared two years ago and had nearly disappeared, leaving slight whitening of the surface. The rings were composed of vascular pumeta which did not disappear on pressure. The exhibitor thought it was a case of *angioma serpiginosum*, a view agreed in by Mr. Hutchinson and several other members of the Society."

8. JONATHAN HUTCHINSON. Case presented before the Dermatological Society of London. *Brit. Jour. Dermat.*, March, 1895, vii, p. 114.



"Mr. Jonathan Hutchinson showed a case of infective angioma on the hand (naevus lupus). The subject of this case was a girl aged 21, of whose hand two portraits had been taken some years ago, which were shown. The original condition in early childhood was that of two naevoid patches in the skin of the back of the hand, between the thumb and forefinger. They were about the size of two sixpences and were placed near together, with a third about the size of a pea close to them. Although certainly naevoid in part, they were not purely so, for their surface was rough and had a dry, adherent scale crust. They had originated in early childhood and had not been present at birth. The disease was clearly aggressive and "infective" and two of the patches were no doubt "satellites" to each other. The first portrait showed very accurately the condition in 1884. A second portrait, taken in 1887, showed a recurrence of the naevoid condition in the scar that had remained after a very efficient cauterization, which had been performed in the hope of cure. Although the scar was sound, it was stippled over with tufts of dilated blood vessels, almost black in color, exactly like, excepting in point of tint, the vascular scars left after lupus on the face and scalp. The girl had no skin disease elsewhere."

9. FRANCIS. A Rare Form of Angioma Serpiginosum. *International Atlas of Rare Skin Diseases*, 1895.

"M. L., female, aged 3 years, has been under my observation since the age of 4 months.

"Past history. At the time of birth, a "port-wine mark" (Feuermal) was noticed on the plantar surface of the right heel. Within a few weeks similar naevi appeared on the peroneal surface of the right leg and later still on the outer side of the right buttock."

"Present condition. When first seen in September, 1891, at the age of four months, the condition was as follows: An unbroken bluish "port-wine mark" occupies the outer third of the plantar surface and the outer border of the right foot, extending from the point of the heel to the proximal end of the fifth metatarsal bone. On the sole, the naevus has an ill-defined, sinuous outline and is bounded anteriorly and also toward the medial line of the foot, by several isolated, irregularly crescentic or rounded naevi of similar aspect, which seem to have a tendency to join with one another and the larger naevi. On the outer border of the foot the naevus extends nearly to the level of the tip of the external malleolus and over the posterior aspect of the point of the heel. The naevus and its outlying satellites are all exceedingly ill-defined at the margins, which are sinuous and irregularly frayed out; but they are of a bluer color than those met with in other parts of the limb and completely disappear on pressure. The lower half of the outer surface of the leg presents five separate "port-wine marks," about 2 cm. in diameter, surrounded by a large number of smaller satellite naevi, some of which are only just visible to the naked eye; their color is brighter than those on the heel and their outline more ill-defined and irregular. The larger patches seem to be formed by the confluence of the smaller ones into more or less concentric and stellate shapes; the majority of the patches disappear completely on pressure; but in some of the larger patches are small points of 1 mm. diameter, which are of a duller red color and cannot be obliterated by pressure. With this exception, the patches are of a uniform color and cannot be resolved, even with a lens, into small red points. The margins of the patches are most delicately frayed out and ill-defined and recall the appearance of a cirrus cloud. The outer surface of the buttock and thigh in the neighborhood of the great trochanter presents three large "port-wine marks" with many smaller satellites, arranged in a linear manner in the long axis of the limb; in all respects they are similar to those on the leg. There is thus a linear distribution of the disease extending from the trochanter major along the outer surface of the limb to the sole of the foot, broken only in its extent in the upper third of the leg and lower half of the thigh and this interval is bulged over partly by two isolated patches.

"Although the disease has extended, its character is unaltered. There is no difference in the circumference of the lower limbs; there is no evidence of subcutaneous hæmangioma, varicose veins or any affection of the lymphatic vessels; the lymphatic glands in the groin cannot be felt. Since the date above, the patient has been seen several times; there has been a slow and steady increase in the disease, by the enlargement of the larger patches and new formation of satellites; the disease is still limited to the right lower limb and maintains its former characters, both as regards linear distribution and the appearance and arrangement of its constituent patches. No opportunity was afforded for obtaining a portion of the skin for microscopical examination."

Under "Remarks," Francis says: \* \* \* "The case recorded above in many respects resembles those four (Hutchinson's) cases, but differs from them in some important details, which appears to warrant its separation into another sub-group. It resembled them in that the disease had a mainly linear distribution; appeared in early life; affected the lower limb, as in the second case of Hutchinson's; consisted apparently of blood vessels only; was composed of larger patches, with abundant smaller satellite growths around them; and finally, contained some small, scattered points which were not obliterated on pressure. It differed from them, however, in that the patches, even when examined with a lens, were not composed of a series of minute red points and lines and capillary tufts; and there was no tendency to form circles and rings and gyrate lines. These were produced in the first four cases by circular grouping of satellites, or by the patches spreading at their periphery and clearing up in the centre; in this case, however, the patches once formed, never underwent atrophy at the centre."

10. MALCOLM MORRIS. Case presented before the Dermatological Society of London. *Brit. Jour. Dermat.*, May, 1896, viii, p. 222.

"Mr. Malcolm Morris showed a female, aged 30, who presented on both legs an unusual variety of angioma. The discoloration, which is symmetrical on both legs, is most marked around the ankle, but extends upwards for four inches and a half and terminates in an irregular, fairly well-defined margin. Below the ankle, it extends to the instep. The discoloration itself consists of two different characters: there is a gradual, uniform redness which may be considered as a ground work, and on this there are vessels radiating from three distinct centres. These centres are situated on the margin, four inches and a half above the ankle. There is slight swelling in the neighborhood of each ankle and scattered in the general redness are small oval, white patches, but no scars are to be seen, even with a strong lens. The patient states that the redness first appeared in three or four small patches on the outer side of each ankle when she was eighteen; that gradually since that time the patches spread and joined to form the uniform redness now seen. The condition spread so insidiously, that it is only during the last two or three years that her attention has been specially called to the part, on account of considerable aching, during the summer or when she became hot or fatigued. The patient's general health has always been good."

11. LESLIE ROBERTS. Angioma Serpiginosum. Clinical and Histological Notes. *Brit. Jour. Dermat.*, 1897, ix, p. 180.

"Readers of Mr. Hutchinson's *Archives* will recall to mind examples of angioma serpiginosum, which he describes and illustrates in Vol. 1. In my own practice I have met with but one solitary example of this case. The subject of it was a young lady, aged 15, a member of a delicate family (her brother was under my care for acne scrofulosorum). Miss B. was well developed for her age and enjoyed good health. She was born with a nævus on the lip, but it was not until she was four or five years old, that the present disease was noticed for the first time. It was then a reddish patch, not larger than a florin, situated upon the calf of the right leg. This growth was very slow and steady, up to the period of puberty, but with the onset of menstruation, the disease began to spread up the leg and thigh much more rapidly, making as much progress in twelve months as in the previous nine years.

"Present condition. The disease is mainly confined to the right lower extremity, extending along its posterior surface from the ankle to the lower margin of the buttock, being most marked on the calf of the leg and diminishing gradually, as it approaches the top of the thigh. The lesion is a magenta-colored speck or grain of irregular shape, scarcely, if at all, raised above the level of the surrounding skin; the color is permanent, even under pressure of the finger. Of these lesions there are countless numbers, set close together, arranged in circular and crescentic clusters, so that the whole limb acquires a purple-red color when viewed from a distance. There is absolutely no inflammation but the background on which the magenta grains are situated is of a pale pink color, which disappears under pressure of the finger. The epidermis over the lesions is intact, smooth and glistening."

"The left thigh is normal, but the left calf has a bluish, mottled appearance and just one or two magenta grains. There is no swelling of the limbs and no discrepancy between their respective measurements. The inguinal lymphatic glands are normal. The skin of the face is of ruddy complexion, dotted over with freckles. The capillaries in the flush areas are over dilated."

"Histopathology. I removed, with the consent of the parents, a small fragment of the diseased skin and found that the morbid change is located in the blood capillaries, situated immediately beneath the epidermis. The morbid process (see Fig. 1) essentially consisted, so far as the microscope could detect, in the dilatation of these vessels into spaces confined by a well-developed endothelium, the cells of which bulge into the cavities thus formed.

"These cavernous spaces, which on section appeared in the shape of a Savoy biscuit, were filled with red blood corpuscles packed closely together. Their sizes varied; some were 200 microns in length and 50 microns broad in their central narrowest part; others did not exceed 30 microns in length and were correspondingly narrow. There were no morbid changes in the surrounding derma. I noted, especially, the absence of all proliferation of the connective tissue corpuscles and the total absence of inflammatory cells and neoplastic masses. Collagenous tissue surrounding the ectatic blood vessels was compressed. The elastic tissue appeared in every way normal and stained well with orcein. The changes in the epidermis were passive rather than active. The epithelial ridges had completely disappeared over the cavernous spaces, leaving a thin, atrophied layer of epidermis. There was a down growth of epithelium on both sides of the dilated spaces, as shown in the figure. Keratosis was normal; no tendency to hyperkeratosis.

"In respect to the aetiology of the disease, the recorded cases are too few to enable us to form a definite opinion. Mr. Hutchinson's first case was a girl, aged 15, in whom a naevus stain was noticed at birth on the arm; it began to spread early in life. Dr. Jamieson's case was that of a lad aged 19, accustomed to athletics. In this instance the disease appeared, or at least was first noticed, when he was 15 or 16 years old. Dr. Lassar's case had been originally regarded as one of lupus erythematosus, but was recognized by Mr. Hutchinson as essentially identical with his own. Mr. Warren Tay's case began before the end of the second year on the right calf of a girl, and was spread over most of the leg. Mr. Francis' case (Plate 34, Atlas of Rare Skin Diseases) was a female child, aged three years, who was born with a port-wine mark on the right heel, which, in a few weeks, went up the leg and later appeared on the buttock. The majority of the patches were port-wine stains, which disappeared on pressure, the margin being very ill-defined. In both these characters, his case differed notably from mine, which consisted of countless numbers of magenta grains totally unaffected by pressure.

"I think there can be no doubt that Dr. James C. White's case of so-called angio serpiginosum cannot be included in the same group as those recorded above. The disease, which occurred in a boy aged 12, was characterized by bright red points, slowly increasing in size, disappearing partially under pressure and aggre-

gated into patches, advancing at the margin, with simultaneous retrogression in the older areas. The involution was complete in the centre of the patches, which assumed eventually a normal appearance. The element of retrogressive involution was altogether absent in my own case. In angioma serpiginosum of the type described by Mr. Hutchinson, the magenta grains when once they have attained their full size, remain as permanent fixtures in the skin, showing no activity either in the way of growth or of retrogression. Further, the histological conditions of the skin in Dr. White's case were widely different from those of my own. The histological examination of the former case was made independently by Drs. Darier and Councilman, both of whom agreed as to their facts. The morbid change was neoplastic and affected the whole thickness of the derma. There were well-defined cell masses and cell tracts, in the centre of which new formation of capillaries could be observed. These capillaries were dilated in places into cavernous spaces, lined by endothelium. According to Darier, the condition was one of reticulated angioplastic sarcoma."

12. J. MACKENZIE WHITE. A Case of Diffuse Spreading Superficial Navus. *Scottish Medical and Surgical Journal*, 1897, ii, p. 312.

"The following notes describe a very rare form of skin affection, about whose true nature there is room for some difference of opinion.

"Mrs. J. E., aged 44, was admitted to one of my wards in the Dundee Royal Infirmary on May 15, 1896, on account of a very badly compensated stenosis of the mitral valve. Her heart trouble seemed to date from 24 years ago, when she had a severe fright through an accident to the machinery in the mill where she was working. She was then in the fifth month of her first and only pregnancy. I need not go into the details of a series of illnesses depending on the heart; enough to say that she left the Infirmary on July 3rd, to return much worse in September, and died the day after admission.

"The skin affection was such as to give her no trouble. She first observed it two years after the fright, about the outer aspect of the left upper arm and the left side of the thorax, and it has been slowly but steadily spreading since. Every year she noticed an extension. The parts affected were the face, the left upper extremity and the front of the thorax, mainly on the left side; on examining closely a patch of affected skin, it was seen to be studded with minute puncta, the largest less than a pinhead and in color bright red. They have been aptly compared to cayenne pepper grains. The skin between the puncta had in many places a blush which disappeared on pressure. The puncta themselves, however, were only partially affected by pressure. There was no formation of rings or crescents nor the least trace of scarring, but there was a distinct tendency to grouping in patches and bands; isolated spots, however, were also dotted here and there. The surface was smooth and the parts involved were superficial.

"To give the distribution more in detail: On the face, the dots were very numerous and distinct below the left eye-brow; a few on the right upper lid, the right side of the upper lip and on the molar prominences alongside the usual dilated venules. The brow, neck and shoulders were free. On the left side of the trunk anteriorly, the eruption covered an area bounded above by the third rib and below by a horizontal line, extending from the costal margin at the eighth cartilage inwards to near the middle line. A few isolated spots were present in the lower axillary region. On the right side the eruption extended from the sixth rib down to nearly the level of the umbilicus. Here, what on first sight looked like a simple redness of the skin, was found on closer examination, to be very minute stigmata.

"The general arrangements of the eruption on the thorax was in elliptical groups measuring about one inch in horizontal diameter, by a quarter inch vertically. The left upper arm showed on its outer side, spots of a deeper purple hue, mainly collected in a group about three inches by two. Some were observed on a vaccination scar. The inner aspect of the upper arm was more thickly covered,

the eruption taking the form chiefly of bands or irregularly rounded patches. This character was seen also on the inner aspect of the forearm. The back of the forearm and hand, especially on the ulnar side, was likewise involved. The fingers were free.

"On the skin of both legs there were superficial venous dilatations of a varicose nature."

"Remarks. The figure, from a photograph kindly taken for me by my colleague, Dr. Greig, gives an idea of the appearance of the eruption, especially on the inner surface of the arm. On seeing the patient, one was at once struck with the close resemblance between her arm and that depicted by Hutchinson in Plate ix of his *Archives*. He published four cases which, I have no doubt, are of the same nature as mine. One of them, reported by Dr. A. Jamieson, is especially like the above case, in showing no tendency to the formation or rings, no scarring and no congenital nævus as a point of origin. Most unfortunately, a piece of skin which was removed from my case, post-mortem, was mislaid, but I may quote Dr. Jamieson's account of the microscopic appearances present in his case. 'The horny layer of the epidermis was normal, but processes ran down from this in the spaces between the cones deep into the corium. The vascular loops at the apices of the papillæ were dilated into wide spaces, some of which still contained blood.' He regards the condition as 'a very superficial capillary nævus, spreading by the formation of satellites—the isolated puncta.' I am inclined to think that, in my case, the spreading occurred also by the formation of patches, at first like the simple erythematous blush, then in these, fine stigmata were formed, leaving redness of the skin between them.

"The ætiology of the disease is unknown. Whether the fright or the heart disease had anything to do with its onset in the above case, is highly questionable. In one case it seems to have started from a congenital nævus, in another its origin was possibly associated with gymnastic strain.

"In its progress the affection reminds one of certain cases of eczema and psoriasis. Granted a certain constitutional proclivity, what seems at first a purely local and accidental condition, tends to become generalized. One seems almost compelled to admit the agency of the nervous system and extension of 'imperfect innervation' (Jamieson), however hazy our ideas are as to the *modus operandi*. Hutchinson prefers to use the term 'nævus-lupus' as the title to this disease, linking it in the same chain as *lupus vulgaris*, *lupus erythematosus* and 'lupus lymphaticus.' He does not wish to imply any bacillary infection, but simply to make clinically its mode of spreading by satellites and its subsequent scarring. Cicatrices have been noted, however, in only one case and the compound term would be to most of us misleading. Better to use a more lengthy title in the meantime, such as I have put at the head of this paper."

13. DAVID WALSH. Case presented before the Dermatological Society of London. *Brit. Jour. Dermat.*, December, 1897, x, p. 18.

"Dr. David Walsh showed a case of infective hæmato-angioma, the patient being a young woman. The case was shown two years ago and was under the care of Mr. Warren Tay of Blackfriars. The patient was now 21 and had had the condition for eight years. It began in one arm immediately after an attack of rheumatic fever and spread from that point all over the body. When he (Tay) showed the case in 1895, he said it appeared to be a chronic, progressive perivascular inflammation, accompanied by obliteration of the arterioles and atrophy; and then he said it seemed secondary to some purpuric condition, perhaps connected with rheumatism. It ran in arborescent lines down the arm and travelled along the surface capillaries. On the arms, where it had healed, there were little surface depressions. It had travelled over the face, without leaving much marking. Within the last two months there had been a fresh storm and the eruption had appeared in fresh, slightly raised points, not in arborescent lines and spread out in roundish spots on the legs. That was attended by some

system upset with diarrhoea. In addition, there was a nævoid condition in the left popliteal space, with enlarged veins. Massage and antiseptic ointments seemed to produce a gradual scarring. Replying to a question by Dr. Savill as to the reason for using the term 'infective' in regard to the case, the term was first used by Mr. Hutchinson and he took it to mean infective in a local sense—a creeping, slow invasion. He had met with two other cases at Blackfriars, but they were not by any means so pronounced. The lesions in those ran down the course of the ulna, as if the arm had been scraped against a door-step. In one it was connected with a bone lesion."

14. JAMIESON. Case presented at Meeting of the British Medical Association, Edinburgh. *Brit. Jour. Dermat.*, July, 1898, x, p. 325.

"Dr. Jamieson showed an example of Hutchinson's infective angioma of 16 years' duration, on the right arm of a man aged 26."

15. MORGAN DOCKRELL. Case of Angioma Serpiginosum. Case presented at the Medical Society of London, *Transactions*, 1898, xxi, p. 354.

"The patient, a phlegmatic woman, aged 21 years, had suffered from the disease since she was three months old. She had always enjoyed good health, with the exception of the eruption, which appeared when she was three months old, as a number of spots and lines on the face and limbs, leaving the trunk practically free. This eruption remained permanent, neither increasing nor diminishing, till she was 16 years of age, when it began spontaneously to disappear. On the face could be noted a number of telangiectatic lesions of a bright-red color and, in addition, a large number of flat scars could be observed where the telangiectases had disappeared. On the extensor aspects of the forearms and dorsal surfaces of the hands there were similar lesions of a purple color, which were more deeply seated and did not disappear under pressure. In addition, patches of pigmentation and depressed scars were present. The condition was more marked on the thighs and legs.

"The case was of interest in that the lesions remained unchanged until the age of 16 years, when they began to disappear spontaneously from the limbs without ulceration. Dr. Dockrell considered that there was no ground for still adhering to the theory that this condition was in any way a lupoid condition, other than the fact that when it occurs in strumous individuals, it is more apt to undergo ulceration."

16. HYDE AND MONTGOMERY. *Diseases of the Skin*, 7th ed., 1904.

Angioma Serpiginosum. "In a case under our observation in a female infant, the lesions developed as a sequence of a congenital navus of the vulva."\*

17. DORE. *Brit. Jour. Dermat.*, 1905, xvii, p. 224. Case presented before the Dermat. Soc. of London. May, 1905.

"Dr. G. E. Dore showed a case for diagnosis, seen by him at the Middlesex Hospital in Dr. Pringle's absence. The patient was a man aged 60 years, who was employed as a laborer in the Weights and Measures Department of the London County Council. In addition to a chronic dermatitis of 12 months' duration, affecting his hands, fingers and nails, he presented a peculiar eruption, which he had first noticed 10 years ago on both his forearms, extending from the wrist to just below the elbow. The latter eruption appeared to be made up of small telangiectatic points and small areas of pigmentation, alternating with pale areas of healthy skin, the combination producing a mottled and somewhat retiform appearance. No atrophy or scarring could be detected and there were no subjective symptoms. According to the patient's account, the condition had spread during the first five years and for five years had remained stationary. There had been no recent exposure to sun and heat and he worked with his arms covered;

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\* The foot-note reference to "Joy" in this text-book is a typographical error; the reference is meant for Tay, whose case is recorded in this article.

in previous years, however, he had been a farmer. The telangiectases and pigmentation suggested the condition sometimes brought about by long exposures to X-rays.

"No diagnosis was offered. Dr. Pringle said he had seen similar cases and considered them to be of the 'infective' angioma type."

18. HUTCHINSON, SR. *Brit. Jour. Dermat.*, 1907, xix, p. 319. Dermat. Soc. of London, Oct., 1890.

"Infective angioma (nævus lupus). Mr. Hutchinson showed a wax model (from Lassar's case at Berlin, shown in the Museum at the International Medical Congress, 1891) of the arm of a child and a drawing of the arm of a patient of his own, with a delicate ringed eruption, called by him a phase of lupus erythematosus. He compared it with a portrait of lupus erythematosus of a woman's face, showing the similar delicate rings on the cheeks."

19. HUTCHINSON, JR. *Brit. Jour. Dermat.*, 1907, xix, p. 327. Case presented before the Dermat. Soc. of London, July, 1891.

"Mr. Hutchinson, Jr. showed for Mr. Hutchinson, Sr., a case of infective angioma or nævus-lupus in a girl aged 12. The condition was similar to that illustrated in Plate ix of Mr. Hutchinson's *Archives of Surgery*, but confined to the left leg. The disease began at the age of 2 years and was still spreading. The vesicular [vascular] tufts (telangiectases) of which it was composed, could not be emptied by pressure. No scarring was present. The patient was liable to severe chilblains in winter. The case was the fourth of the sort seen by Mr. Hutchinson."

20. WALLHAUSER. *Jour. Cutan. Dis.*, August, 1909, xxvii, p. 353. Case presented before the New York Acad. of Med., Sect. on Dermat., February, 1909.

"Angioma serpiginosum. Mrs. B., aged 25, married; had one child and is in good health. In her previous history there is nothing except a slight attack of rheumatism at the age of 12. About 6 months ago, a small red spot was noticed on the inner side of the left leg, just below the knee. According to the patient's statement, it looked like what would be caused by an injury and, although she was not conscious of having had a traumatism, she ascribed it to this cause. Instead of disappearing, it gradually extended and new lesions appeared on various parts of the thighs and legs. At present, about 10 can be seen, in size varying from a small papule to several inches in circumference. At the original site, two have coalesced, forming a patch measuring about 3 inches in its long axis. As the lesions enlarge, the centres clear without apparent scarring. In the original patch, there are two of these clearing rings, marking the site of the two separate lesions from which the larger one was formed. The lesions consist of minute angiomatous points with slight intervening œdema. The surface is roughened, but not scaly nor perceptibly raised; the color is purplish-red and does not disappear on pressure. Extension occurs by the development of outlying foci of vascular points. In the early stages they are circular or oval in outline, gradually becoming irregular as they advance. The treatment thus far, with the various antiseptics, has not caused the slightest change."

22. MORRIS AND DORE. *Brit. Jour. Dermat.*, December, 1912, xxiv, p. 424. Case presented before the Roy. Soc. of Med., Dermat. Sect., November, 1912.

"Sir Malcolm Morris and Dr. Dore showed an extensive case of infective angioma (Hutchinson). The patient was a healthy-looking girl, aged 24. The disease began on the right arm at the age of 2 years and had continued to spread slowly since that time. The lesions were distributed over the right hand and arm, terminating at the axilla, on the right breast, around the nipple, on both buttocks, and the anterior and posterior surfaces of the upper parts of the thighs and on both legs and feet. The skin showed a red or purple mottling, with minute telangiectatic, cayenne pepper points. The right hand was œdematous and deeply cyanosed and the feet were blue. She also suffered from chilblains of the feet. The patient stated that the patches became paler or disappeared when she was in

a hot bath, but became blue afterwards. They were also made paler by pressure, but did not completely disappear except for the greater extent of the lesions; the case appeared to be in every way similar to the one shown by Dr. Sequeira and published in the *British Journal of Dermatology* for October, 1912."

23. SEQUEIRA. *Brit. Jour. Dermat.*, October, 1912, xxiv, p. 355. A Case of Hutchinson's Infective Angioma. (Original Article).

"The patient was a girl of 20, in whom the condition was first noticed at the age of 2, in the shape of small red spots on the right arm. The whole of the front and outer side of the right arm showed red patches, in some of which was a distinct purplish tinge. The purple areas were constant and did not change to red, nor the red to purple, with changes of temperature, etc. Round the periphery of the affected area were clusters of minute red spots, recalling the 'cayenne pepper' grains of Hutchinson's original description. The central areas were more homogeneous, but even in them the spotted character was present. The eruption extended sparsely over the right shoulder on to the front of the neck and chest, but not across the middle line. Below, it extended down the front of the forearm as far as the dorsal surface of the forefinger and the front and back of the thumb. The rest of the integument was free. On pressure, the color became paler, but did not disappear.

"The epidermis was of normal appearance, having a stratum granulosum and stratum corneum. The capillaries and most of the venules in the papillary zone were greatly engorged by red corpuscles, relatively few leucocytes being present. Other venules were collapsed, their lumen being a mere slit. In these, the acellular tissue between the endothelium and a layer of elastic fibres was very greatly swollen and was stained yellow or faint pink with van Gieson. A similar but less marked swelling was also seen in the walls of the dilated vessels. The capillaries and venules in the deeper layers of the dermis were also engorged. There was no evidence of œdema of the dermis. There appeared to be a little proliferation of the fibroblasts round groups of capillaries in the papillary zone, but there was no infiltration by free cells. Immediately beneath the epidermis there were some oval bodies, which lay in unlined spaces. They varied in size, were structureless and stained fairly well with eosin, yellow with van Gieson and somewhat deeply by elastin. The substance of the oval bodies was Gram negative.

"It is obvious that the condition is not lupus in the sense of being a tuberculous process. It is not the ordinary type of nævus, because it spreads steadily for many years after birth. I was unable to find any areas which showed cicatricial changes such as were described by Hutchinson in his case. The significance of the oval bodies lying in unlined spaces in the dermis, can not be determined. Dr. Turnbull, to whom I am indebted for the report on the histology, was unable to identify them."

25. ENGMAN AND MOOK. *Jour. Cutan. Dis.*, May, 1913, xxxi, No. 5, p. 333. Case presented before the 36th Annual Meeting of the Am. Dermat. Assn., St. Louis, May 23 to 25, 1913.

"Angioma serpiginosum. The patient was an infant of 10 months, with a peculiar superficial nævus with outlying satellite points. The condition involved the lower part of the side of the face and existed as a peculiar fretwork of vessels, which seemed to be extending peripherally by the appearance of satellite points."

For the sake of completeness of record, I append the reports of two cases which showed a marked clinical resemblance to angioma serpiginosum, a circumstance which was mentioned in each account. One was reported by Schamberg, of Philadelphia, the other by Morris of London.



MORRIS. *Brit. Jour. Dermat.*, 1900, xii, p. 93. Case presented before the Dermat. Soc. of London, February, 1900.

"Mr. Malcolm Morris showed a case of a peculiar ringed eruption of the legs in a young woman, a domestic servant. The eruption extended from about the junction of the upper and middle thirds of the thighs to just above the ankle and had the same distribution and character on both legs. It consisted of rings and gyrate figures presenting a map-like pattern. The rings were of various sizes, many being about the size of a sixpenny-piece; the margins were apparently made up of minute, punctate, telangiectatic spots, which did not disappear on pressure, and were not appreciably raised above the surface; the enclosed area of skin was smooth and presented a slight brownish discoloration. The gyrate figures, apparently formed by the junction and coalescence of the circles, were similar in character to the latter but larger, and the margin was paler in colour; they were situated more on the anterior aspect of the legs, the rings being more numerous on the outer surfaces. The eruption has taken about 3 months to reach the present condition and has come out more or less in crops. The patient thinks it has not spread during the last month and some of the lesions seem to have faded recently. There is no history of rheumatism, or anything to throw light on the causation of the eruption.

"Some of the members present regarded this case to be an example of angioma serpiginosum (infective angioma); others felt inclined to regard the condition as one of erythema, with subsequent atrophy of the affected areas and thus allied to lupus erythematosus."

SCHAMBERG. *Brit. Jour. Dermat.*, January, 1901, xiii, p. 1.

"A Peculiar Progressive Pigmentary Disease of the Skin." (Original article).

"The disease was in a boy of 15 and began in the front of both legs in the year 1896. In some features, there was a resemblance to angioma serpiginosum. The primary lesions of the disease were reddish puncta, barely elevated above the level of the skin. These were quite like the 'cayenne pepper' spots seen in angioma serpiginosum. Then again, the manner of spreading (described by Hutchinson as infective) and the slow, progressive course, are strikingly analogous to that seen in angioma serpiginosum. The latter differs from this affliction, however, in its onset in the first years of childhood (although Jamieson's case occurred in a boy of 15 years), in its constant tendency to form circinate patches, in its absence of marked pigmentation and in the different histological picture.

"Under the microscope, the picture is that of a subacute inflammatory disease. The pathological process has its chief seat in the subpapillary layer of the corium and with most intensity in the immediate neighborhood of a sweat duct. Whether the sweat apparatus plays a part in the ætiology of the disease could only be determined by an examination of numerous lesions, excised at various stages of development. The absence of pigment is probably to be accounted for by the fact that the lesion was a comparatively new one and pigmentary changes in the skin had not yet taken place.

"The patient was shown at the meeting of the American Dermatological Association, in Philadelphia, in 1899."

**ÆTIOLOGY.** Nothing definite is known of the ætiology of angioma serpiginosum. In five of the reported cases, a port-wine mark was considered to be the starting point of the eruption. One of the cases has been ascribed to sudden fright; another began after the rupture of minute muscles of the skin during gymnastic exercises. It is not improbable that disturbances of the internal secretions play a rôle in the causation of the malady.

**INCIDENCE OF AGE, SEX, ETC.** Of the 25 reported cases, 18 occurred in females, 5 in males, and in 2 the sex is not mentioned. The ages of the patients ranged from infancy to 60 years. The disease made its appearance from birth to the tenth year, in 14 cases; from the tenth to the twentieth year, in 6 cases; from the twentieth to the thirtieth year, in 4 cases; from the fiftieth to the sixtieth year, in one case. Five of these cases presented ordinary vascular *nævi* at birth; in 17, the disease was acquired; in 3 of the cases the duration of the disease is not mentioned.

**INITIAL LESION.** Aside from the cases beginning as congenital *nævi*, the initial lesions have been described as small red spots; reddish patches; diffuse redness and puncta; radiating telangiectases; spots and lines; telangiectases and pigmentations; *nævroid* patches; reddish puncta; cayenne pepper spots; magenta grains.

**DISTRIBUTION.** With the exception of the scalp, all portions of the integument have been attacked by the eruption.

**RARITY OF THE DISEASE.** The American literature contains the reports of only 3 cases, including White's case, which, however, was an angio-sarcoma; the other two cases were briefly reported by Wallhauser and by Engman and Mook. All other cases have been reported from Great Britain. Presumably the disease occurs in other countries, but has either not been recognized, or has been described under various titles which do not readily permit of its identification, from a perusal of the literature.

**COURSE OF THE ERUPTION.** This varies greatly, but in all cases it is characterized by an extremely slow and insidious advance. Periods of quiescence, during which no new lesions appear, have been described as occurring in the majority of the reported cases. Several authors have laid emphasis on the fact that retrogression of the patches may take place, resulting in a normal appearing skin at the site of the lesion; or a smooth, blanched area of skin may follow the disappearance of the telangiectases; or, most commonly, the areas in which retrogression of the lesions has taken place, give the impression of being stippled over with small, glistening, atrophic spots, producing a somewhat lichenified appearance of the affected integument.

While most of the cases show a continuous, progressive and extensive evolution, in others an arrest in the progress of the eruption may take place. Dockrell described a patient in whom the lesions remained unchanged until the sixteenth year, when they began to disappear spontaneously. In Dore's patient, the disease had remained stationary for five years.

**TYPES OF ERUPTION.** In a general way, the eruption of angioma serpiginosum may be classified under five types. (1) Cases in which the efflorescences are composed wholly of minute puncta, closely grouped and forming large patches. (2) Cases in which the entire eruption is comprised of patches resembling the ordinary congenital vascular nævus. (3) Ringed, gyrate or annular types. (4) Retiform types. (5) Cases in which these various types occur simultaneously.

**SUBJECTIVE SYMPTOMS.** These have been entirely absent in the majority of the cases. In some of them, the patients complained of a trivial degree of pruritus; a few of them had hyperæsthesia of the affected portions of the body; several authors report the occurrence of chilblains of the hands and feet. On the whole, there is a remarkable absence of subjective symptoms in this disease.

**HISTOPATHOLOGY** (See, also, review of the literature). The histological studies of angioma serpiginosum have been very meagre and but little light has been thrown on the subject, as to the origin and nature of the malady. The one case in which the microscopic appearances were thoroughly studied by Darier and by Councilman and Bowen, namely, White's case of so-called angioma serpiginosum, proved to be, in reality, an angio-sarcoma. Jamieson's case (reported by Hutchinson) showed a "very superficial capillary nævus, spreading by the formation of satellites." In Robert's case, "the morbid process essentially consisted, so far as the microscope could detect, in the dilatation of these vessels (the blood capillaries situated immediately beneath the epidermis) into spaces confined by a well developed endothelium, the cells of which bulge into the cavities thus formed." Histological studies of Sequeira's case did not reveal any definite characteristics peculiar to the disease; he found "some oval bodies, immediately beneath the epidermis, lying in unlined spaces, the significance of which could not be determined."

**REMARKS ON RELATED DERMATOSES.** The clinical characters of angioma serpiginosum are so striking that there is little likelihood of the disease being confounded with other dermatoses. In going over the literature, however, I find that several cutaneous disorders which bear resemblances, clinically, to angioma serpiginosum, have been reported. Chief among these is the disease described by Majocchi in 1896, under the title of *purpura annularis telangiectodes* (*telangiectasia follicularis annulata*). In this disease, the occurrence of purpura at once places it under another group of cutaneous disorders; no extravasation of blood takes place in angioma ser-

piginosum. Aside from the purpuric elements in Majocchi's disease, however, there seems to be a striking clinical resemblance between the two dermatoses. Majocchi's disease begins usually on the extremities as small, dark-red patches, which, on closer examination, are seen to be composed of aggregations of pin-point to pin-head sized, dark-red spots, which do not disappear or change in size under pressure. After persisting as such for a time, they develop into annular or striated plaques, having a pale-brown centre with a peripheral ring of dark-red, bluish or reddish-brown spots, some of which may be seen also in the interior of the plaques. After a lapse of months, the lesions may disappear entirely, leaving no trace behind, although recurrences are apt to take place. In one of Brandweiner's cases the lesions appeared on the oral mucous membranes. There are no subjective symptoms throughout the disease. Histologically, the lesions are composed of the smallest capillaries and pre-capillary ectasia, accompanied by slight hemorrhages; some of the dilated vessels contain a few round cells; here and there are seen isolated, spindle-shaped elements, which probably represent hypertrophied adventitious tissue. The disease may appear in either sex and at any age, but is most common in the young. As to its aetiology, it is probably a vasomotor trophic disturbance (Brandweiner, *Dermat. Wchnschr.*, Oct. 19, 1912, lv, No. 42).

In Majocchi's original description, he formulates seven general characters of the disease: (1) Pink and livid-red spots, made up of capillary dilatations, followed by hemorrhages, without preëxisting hyperæmia, without palpable infiltration of the skin and usually in connection with the hair-follicles. (2) Slow development and increase of the lesions. (3) Constant, eccentric growth of the spots, whereby regular rings are formed. (4) Symmetrical disposition of the eruption. (5) Primary seat of the eruption on the limbs, especially the lower extremities. (6) Usual absence of pruritus and other sensory symptoms. (7) Resolution by moderate degree of atrophy with achromia of the skin, sometimes with alopecia. Majocchi also described three stages of development: (1) Telangiectatic stage. (2) Hemorrhagico-pigmentary stage. (3) Atrophic stage. Histologically, he found a small-celled infiltration in the neighborhood of the blood vessels within the livid-red spots; there was atrophy of the hair-roots and hair-follicles and absence of the sebaceous glands through atrophy; thinning of the stratum corneum and stratum granulosum. (Majocchi, *Purpura Annularis Telangiectodes*. *Arch. f. Dermat. u. Syph.*, 1898, xliii, p. 454; also, *Gior. ital. d. mal. ven.*, 1896, ii).

Crocker evidently regarded the two diseases as being identical. In his text-book (*Diseases of the Skin*, 3rd ed., p. 972) under the heading of "Anatomy" of angioma serpiginosum, Crocker speaks of Majocchi's cases of telangiectasia follicularis annulata and his own case of angioma serpiginosum, as though no differences existed between the two diseases. He says, (referring to the histology of angioma serpiginosum) "Majocchi found the ectatic capillaries round the follicular orifices."

T. Colcott Fox (*A Case of Bilateral Telangiectases of the Trunk, with a History of Marked Epistaxis in Childhood and Recent Rectal Hæmorrhage*, *Brit. Jour. Dermat.*, May, 1908, xx, p. 145) also classes both diseases under the same heading, though he does not definitely state that he considers them to be identical. Referring to the various types of nævi, he says: "Perhaps I may, under nævi, include the group of cases denominated infective angioma by Hutchinson and angioma serpiginosum by Crocker, though the latter term is not fully expressive of the condition. These cases are characterized by minute vascular points, formed in rings or other groups, which spread at the borders, whilst fresh points are continually developing beyond them. Thus they form delicate ringed and gyrate patterns. They generally begin in early life. There are a number of cases recorded. Walsh's case was a curious serpiginous angioma, but probably different from Hutchinson's type. Majocchi described four ringed cases under the term *purpura annularis telangiectodes* and mentions a fifth. The first reminds one of Pollitzer's case: A child was born with hare-lip, incomplete right ear, double right thumb, asymmetrical face and a uniformly red skin. The general redness disappeared in two weeks, leaving red, dilated vessels, punctate, lentil-seed or tracts—not disappearing on pressure—more numerous on the back than on the chest and scanty on the extremities. There was ring formation of a half to two centimetres in diameter, in some places on the back they were confluent. The centres of the rings were atrophied and pigmented. The child died at the end of the third month. The other three cases, in men aged respectively, 21, 22 and 25 years, commenced at about 19, 18 and 25 years. The description is very suggestive of Hutchinson's infective angioma."

F. Parkes Weber (*Brit. Jour. Dermat.*, March, 1913, xxv, No. 3) in a paper entitled *Chronic Raynaud's Symptoms and Remarks on Livedo Reticulata*, makes the following statement: "I suspect that various forms of livedo reticulata and allied cases have been described under many names, including '*purpura annularis telangiect-*

todes' and that possibly some other cases described under the latter name may really have been examples of Hutchinson's 'infective angioma' (serpiginous nevus)."

The latest contribution to the subject of purpura annularis telangiectodes is by Pasini (*Gior. ital. d. mal. ven.*, March, 1913, liv, No. 1; including a complete bibliography). In this exhaustive paper I find no references to angioma serpiginosum, the author evidently not considering the latter disease as related to that described by Majocchi.

From these extracts it would appear that some of the writers whom I have mentioned, seemed to overlook the various differences in the clinical appearances of the two dermatoses. In angioma serpiginosum, none of the lesions are purpuric; there is no involvement of the follicles with atrophy of the hair and alopecia, as is the case in Majocchi's disease; nor is there a tendency to disappearance and recurrence of the lesions; the capillary dilatations are not as sharply defined or as distinctly outlined as they are in Majocchi's cases, but appear more or less clouded, as though one were examining an area of ordinary blood vessel dilatations through a piece of ground glass, pressed against the skin. In Majocchi's disease, the hæmorrhagic lesions can be easily differentiated from the capillary dilatations, the latter being as distinct and readily visible as those, for example, of rosacea or of a spider nevus; they appear as rose-red, punctiform lenticular or linear telangiectases, some of which may be tortuous, others branched and running parallel to the plane of the skin.

A few observers, among them Hyde (*Brit. Jour. Dermat.*, 1908, xx, p. 33) have recorded the occurrence of cutaneous telangiectases in diseases associated with profound changes in the blood and the viscera; of these, the lesions occasionally seen in Grave's disease are a type.

Of other related dermatoses, there remains only to be mentioned a group of diseases regarding which a great deal has been written. I refer to the class of cases described as multiple hereditary telangiectases with recurring hæmorrhages. Osler described a series of cases of this type (*Quart. Jour. Med.*, Oxford, 1907-1908, i, p. 53. Also a paper "On Telangiectases Circumscripta Universalis." *Bull. Johns Hopkins Hosp.*, 1907, xviii, p. 401). T. Colcott Fox described a similar case under the title mentioned above. F. Parkes Weber has written a large number of articles on this subject (Angioma Formation in Connection with Hypertrophy of the Limbs and Hemihypertrophy. *Brit. Jour. Dermat.*, 1907, xix, p. 231.

Also, Multiple Hereditary Developmental Angiomata (Telangiectases) of the Skin and Mucous Membranes, Associated with Recurring Hæmorrhages. *Lancet*, 1907, ii, p. 160). Similar cases have been reported by P. Gaston (Dilatation vasculaire cutanée généralisée d'origine congénitale et héréditaire; telangiectasies vasomotrices. *Bull. Soc. franç de dermat. et de syph.*, Paris, 1894, v, p. 71). A number of other authors, too numerous to mention, have written upon the same subject. In this class of diseases, the affection is usually hereditary; it affects also, the mucous membranes, is associated with recurring hæmorrhages and frequently with hypertrophy and malformation of various parts of the body.

**PROGNOSIS.** From the nature of the malady, it may be inferred that very little can be done in the way of removal of the lesions, especially in the widespread cases. The problem is practically the same as the removal of a flat vascular nævus or port-wine mark. As has been mentioned before, some of the cases are arrested in their course without treatment, while in a few, spontaneous retrogression takes place, leaving the affected skin somewhat blanched, glistening and atrophic in appearance. In the majority of the cases the disease slowly advances until large areas of skin are involved. The general health of the patient remains unaffected throughout the course of the disease.

**TREATMENT.** In my patient (Case 1), considerable improvement in the appearance of the skin resulted from the long-continued use of a strong resorcin lotion, producing desquamation; whether the improvement from this mode of treatment will be lasting, is doubtful. For the removal of small patches, the use of liquid air or solidified carbon dioxide snow would probably be of benefit.

#### RESUMÉ.

(1) Angioma serpiginosum is a disease entity, differing from other dermatoses which are characterized by the occurrence of multiple telangiectases, both clinically and microscopically.

(2) The disease may have its starting point from a congenital vascular nævus, or it may arise *de novo*, without a preëxisting lesion of the skin.

(3) The mode of extension is by the occurrence of satellite spots which later coalesce to form larger patches.

(4) No purpuric elements occur in the disease.

(5) Apparently there are no associated lesions of the blood and internal organs, no tendency to hæmorrhages and the general health of the patient remains unaffected.

## ANGIOMA SERPIGINOSUM.

Case No.	Reference to Literature	Referred by	Title of Record	Age	Sex	Distribution
1	1889-1890. Archives of Surgery, Plate IX, i, p. 289.	Hutchinson.	A Peculiar Form of Serpiginous and Infective Nævoid Disease.	15	F.	Arm.
2	1890. <i>Ibidem</i> , Plates XIV and XV, i.	Hutchinson.	A Rare Form of Lupus (Marginatus).	About 17	M.	Face, arm, forearm and axilla.
3	1890-1891. <i>Ibidem</i> , ii, p. 71.	Hutchinson. Patient of Jamieson.	Serpiginous Nævoid Condition of the Skin. (Nævus Lupus).	19	M.	Right arm and forearm to thumb; right side of breast.
4	1890-1891. <i>Ibidem</i> , ii.	Hutchinson. Patient of Lassar.	Lupus Erythematosus.	Young child.	?	Cheeks, ears, right arm and hand.
5	1891-1892. <i>Ibidem</i> , Plate IX, iii.	Hutchinson. Patient of Tay.	Infective Angioma, or Nævus Lupus.	12	F.	Right calf and leg, front of thigh, left leg.
6	1894. Jour. Cutan. Dis., xii, p. 505.	J. C. White.	A Case of so-called Angioma Serpiginosum.	12	M.	Right scapula and right half of chest.
7	1894. Brit. Jour. Dermat., iv, p. 367.	Crocker.	Angioma Serpiginosum.	28	F.	Face and jaw.
8	1895. <i>Ibidem</i> , vii, p. 114.	Hutchinson.	Infective Angioma or Nævus Lupus.	21	F.	Back of hand.
9	1895. Internat. Atlas. Rare Skin Dis.	Francis.	A Rare Form of Angioma Serpiginosum.	3	F.	Right leg, thigh, buttock and sole of foot.
10	1896. Brit. Jour. Dermat., viii, p. 122.	Morris.	Unusual variety of Angioma.	30	F.	Both legs.
11	1897. <i>Ibidem</i> , ix, p. 180.	Roberts.	Angioma Serpiginosum.	15	F.	Right leg and thigh; left calf.
12	1897. Scot. Med. and Surg. Jour., i, p. 312.	J. Mackenzie White.	Case of Diffuse, Spreading, Superficial Nævus.	44	F.	Face, trunk, left arm.
13	1897. Archives of Surgery, viii, p. 143.	Walsh.	Infective Hæmato-Angioma	21	F.	Generalized. Began on one arm.
14	1898. Brit. Jour. Dermat., x, p. 325.	Jamieson.	Infective Angioma	26	M.	Right arm.
15	1898. Trans. Med. Soc., Lond., xxi, p. 354.	Dockrell.	Case of Angioma Serpiginosum.	21	F.	Face and legs.



CHRONOLOGICAL TABLE.

Initial Lesion.	Duration, Years	Evolution	Atrophy or Scarring	Congenital or Acquired	Remarks
"Port wine" mark.	?	Spreading by satellite spots; involution and cicatrization.	Present.	Congenital.	Portrait shown. Congenital "port wine" mark.
?	?	<i>Ibidem.</i>	Present.	?	Portrait shown.
Small red spot.	4	Spreading by satellite spots.	Absent.	Acquired.	Same case reported in Trans. Med. Chir. Soc., Edin., ix, 1889-1890, N. S., under title "Nævus Punctiformis."
Small nævus.	?	?	Present.	?	Case shown at the Berlin Internat. Cong., 1890.
Small groups of spots.	10	Spreading by satellite spots.	Absent.	Acquired.	No regular grouping; no ring lesions.
Purplish red mark with small elevated points.	12	<i>Ibidem.</i> Involution in centre; annular mode of progression.	Absent.	Congenital.	Original article. Histological examination revealed angiosarcoma.
?	2 yrs. on jaw, 2 mos. on face	Spontaneous retrogression; satellite spots.	?	Acquired.	Case shown at Dermat. Ass'n, Lond., 1894.
Two nævoid patches.	16	?	Present.	Acquired.	<i>Ibidem</i> , March, 1895.
"Port wine" mark.	3	Satellite patches, coalescing of patches.	Absent.	Congenital.	Original article. Absence of puncta and capillary tufts. Illustrated.
Diffuse redness and radiating telangiectases.	12	Gradually spreading patches, joined to form uniform redness.	Absent.	Acquired.	Case shown at Roy. Dermat. Ass'n, Lond., May, 1896.
Reddish patch.	11	No retrogressive involution.	Absent.	Acquired.	Born with nævus of the lip.
Diffuse redness and puncta.	12	Spreading by minute puncta.	Absent.	Acquired.	Original article.
?	8	Formation of arborescent lines along surface capillaries.	Present.	Acquired.	Case shown at Dermat. Ass'n, Lond., Dec., 1897. Also appears in 1898, Brit. Jour. Dermat., x, p. 18.
?	16	?	?	?	Case shown at Brit. Med. Ass'n, Edin., 1898.
Spots and lines.	20 <sup>3</sup> / <sub>4</sub>	Spontaneous involution in portions.	Present.	Acquired.	Case shown at Med. Soc., Lond., 1898.

## ANGIOMA SERPIGINOSUM.

Case No.	Reference to Literature	Referred by	Title of Record	Age	Sex	Distribution
16	1904. Text Book of Dermat., 7th ed.	Hyde and Montgomery.	Angioma Serpiginosum.	Infant	F.	?
17	1905. Brit. Jour. Dermat., xvii, p. 224.	Dore.	"For diagnosis."	60	M.	Forearms.
18	1907. <i>Ibidem</i> , xix, p. 319.	Hutchinson, Sen.	Infective Angioma or Nævus Lupus.	15	F.	Arms.
19	1907. <i>Ibidem</i> , xix, p. 327.	Hutchinson, Jun.	<i>Ibidem</i> .	12	F.	Left leg.
20	1909. Jour. Cutan. Dis., xxvii, p. 353.	Wallhauser.	Angioma Serpiginosum.	25	F.	Left leg.
21	1911. <i>Ibidem</i> , xxix, p. 181.	Howard Fox.	"For diagnosis."	38	F.	Thighs, legs, arms and abdomen.
22	1912. Brit. Jour. Dermat., xxiv, p. 424.	Morris and Dore.	Infective Angioma.	24	F.	Right hand and arm, right breast and nipple, legs, thighs, buttocks, and feet.
23	1912. <i>Ibidem</i> , xxiv, p. 355.	Sequeira.	A Case of Hutchinson's Infective Angioma.	20	F.	Right arm, neck, chest and shoulder.
24	1912. Jour. Cutan. Dis., xxx, p. 208.	G. H. Fox.	Diffuse, Macular Atrophy of the Skin.	38	F	Back, chest, arms, and legs.
25	1913. <i>Ibidem</i> , xxxi, p. 333.	Engman and Mook.	Angioma Serpiginosum.	10 mos.	?	Face.

CHRONOLOGICAL TABLE.

Initial Lesion.	Duration, Years	Evolution	Atrophy or Scarring	Congenital or Acquired	Remarks
Nævus of Vulva.	Since birth	?	?	Congenital.	"In a case under our observation, in a female infant, the lesions developed as a sequence of a congenital nævus of the vulva."
Telangiectases and pigmentations.	10	Gradual spreading with retiform and mottled appearance.	Absent.	Acquired	Case shown at the Dermat. Ass'n, Lond. 1905.
?	?	?	?	?	Portrait of arm shown. Same patient as No. 1 of this list.
?	10	?	Absent.	Acquired.	Case shown at the Dermat. Ass'n, Lond., 1891.
Small red spot.	½	Peripheral spreading by small angiomatous points.	Absent.	Acquired.	Case shown at the N. Y. Acad. Med., Sect. on Dermat., Feb., 1909.
Telangiectases	18	Peripheral extension by telangiectases.	Apparent atrophy present.	Acquired.	Case shown by Howard Fox, at N. Y. Dermat. Soc., Oct., 1910. Photograph in text.
"Cayenne pepper" spots.	22	Spreading by satellite spots.	Absent.	Acquired.	Case shown at the Royal Ass'n Med., Lond., 1912.
Small red spots.	18	<i>Ibidem.</i>	Absent.	Acquired.	Original article. Case shown at Roy. Soc. Med., April, 1912. Illustrated.
Telangiectases	10	Peripheral extension by telangiectases.	Apparent atrophy present.	Acquired.	Case shown by G. H. Fox, at the N. Y. Dermat. Soc., Dec., 1911. Photograph in text.
?	?	Spreading by satellite points.	?	?	Case shown at Amer. Dermat. Ass'n., St. Louis, 1912.

(6) Histologically, the appearance is that of a low-grade inflammation, the capillary areas of the papillary and subpapillary layers being affected primarily, with secondary effects in the epidermis.

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## CLINICAL REPORT.

## SYNOVIAL LESIONS OF THE SKIN.

By OLIVER S. ORMSBY, M.D., Chicago.

THE following clinical notes are suggested by an article by G. P. Lingenfelter, in *THE JOURNAL* for September, 1913, page 647, describing a case for diagnosis.

In 1883, the late Dr. James Nevins Hyde, in the first edition of his treatise on skin diseases, published a description of a group of cases observed by himself, which is interesting in this connection. This description was carried through several editions of his book, but in recent editions has been omitted. The chief part of his description is as follows:

"SYNOVIAL LESIONS OF THE SKIN. Under this title should be described certain strictly cutaneous lesions which possess some importance from a diagnostic point of view. I have had the opportunity of observing these in several individuals, where the exact nature of the disorder had not been understood. They occur in the form of wart-like projections from the skin, pseudo-vesicles and bullæ, always over the site of bursæ connected with tendons traversing the small articulations of the hand and foot. They are seen over the metatarso-phalangeal articulations; and in the hand most frequently over the dorsal face of the articulation between the distal and adjacent phalanges of the index finger and thumb. The first form is that of a roundish, corneous, pea-sized wart with a yellowish centre, of long duration and usually insensitive unless roughly handled. When punctured, a syrupy, yellowish or grumous fluid exudes and continues to form after repeated puncture. Split-pea-sized vesicles and bullæ as large as a fifty-cent piece, often exceedingly painful, are also seen, especially upon the feet, with simply an epidermic roof-wall. Each contains the same thickened, yellowish or whitish fluid, occasionally mingled with masses like sago grains. In every case the contents of the lesion are supplied by a synovial bursa beneath the skin, with which the lesion is either directly connected, or in communication by a short sinus."

For several years subsequent to this, no patients were seen by Dr. Hyde suffering with this disorder.

During the last eight years, the writer has had under observation four cases similar to the case of Dr. Lingenfelter's. The first of these, when seen later by Dr. Hyde, was recognized by him to be of the type described by himself. The last three occurred more recently and were, therefore, not seen by him, but they were practically identical with the first of this series of four cases.

CASE 1 (December, 1905). A single woman, aged 46. Duration of disorder, five months. The lesion, larger than a pea in size, was situated over the distal articulation of the middle finger of the right hand. Some time previous to examination, the patient had had the lesion removed by surgical procedure, but recurrence followed. She stated that the lesion would fill with the peculiar colorless, syrupy material in about two weeks, during which time some redness was present, with sharp, shooting pains. Recently, the pain had been continuous. The gelatinous or syrupy fluid, which could be removed upon puncture or exuded

by itself, was very characteristic. The top of the lesion was roughened and moderately verrucous, no other changes being noted except the enlargement and the redness, which occurred only at times. The gelatinous material was removed two weeks after the patient's first visit and examined microscopically and bacteriologically, with practically negative findings. One week later, the sac had again filled and the material was again removed and examined, with the same result. During a period of six weeks, the patient had eight mild treatments with radiotherapy, which largely cleared up the lesion. Six weeks later, a moderate recurrence took place, at which time five more treatments were given, which entirely restored the area to the normal. The patient was seen six years afterward and the area had remained well.

CASE 2. A married woman, aged 48. Duration of disease, eight months. The lesion was located over the distal phalanx of the index finger. Complete surgical excision had been practised some weeks previous, but the lesion had recurred. At the time of examination, a pea-sized, fluctuating nodule was present in the above-mentioned area. It was slightly reddish in color, but the skin was perfectly smooth. There was no spontaneous discharge. On opening the lesion with a sharp needle, a thick, syrupy or gelatinous material was removed, such as had been observed in Case 1, and the microscopic findings were similarly negative. Radiotherapy was instituted, but this case proved rebellious. Treatment extended over several weeks and was given only in moderation. Towards the end, electrolysis was added to the radiotherapy, with the result that complete recovery was made, the skin being practically normal in the area.

CASE 3. A married woman, aged 50. Duration of disease, four months. The lesion was situated over the distal articulation of the index finger. It was a little larger than a pea in size and reddish in color, at times, however, being colorless. Fluctuation was present, with no signs of infection. Pain was experienced at times. Upon puncture, the same thick, gelatinous material was removed. This patient was treated in March and April, 1911, with radiotherapy, eleven moderate treatments being given. During the next few weeks, the lesion entirely cleared up and has remained well ever since.

CASE 4. A man, aged 66. Duration of disease, eighteen months. The lesion began over the second joint of the finger and gradually grew in size. In this case no pain or inconvenience was experienced. On examination, a pea-sized, fluctuating nodule was found to be present, slightly reddened, but having nearly the normal color of the skin. On puncture, the characteristic gelatinous substance was removed. On account of the patient's inability to remain in the city, energetic treatment was given with electrolysis, with apparent success. After the lapse of one year, the lesion was still perfectly well.

The above cases are exactly similar, the verrucous element being absent in all but one. All of the cases occurred in patients past forty years of age, three of them women; all of them were located over joints, contained exactly similar material and each appeared very much like a cyst. That these four cases, together with those described in Dr. Hyde's book, are similar to the one recorded by Dr. Lingenfelter appears certain, the striking features being the location of the lesion and the peculiar contents of the cyst, the latter being similar in all cases, but different from the excretion noted in any other condition. The response to radiotherapy, also, is striking, the lack of response and recurrence after other treatment being significant. No connection with the joint could be traced in the four cases seen by the writer. The ætiology of these cases, therefore, remains an open question. An arthritic diathesis is strongly suggested.

## DERMATOLOGICAL THERAPEUTICS.

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## CHRY SAROBIN.

THE usefulness of chrysarobin in the treatment of diseases of the skin is limited to at most about half a dozen conditions. Even in this small number, the drug is commonly used in but two—chronic eczema and psoriasis, and then only in certain types and on certain regions of the body. Thus the indications for chrysarobin are remarkably few and the disadvantages and dangers attending its use are many. But the certainty, brilliancy and rapidity of its action are such as to not only outweigh the disadvantages but entitle it to be classed, when properly applied, among the most useful and reliable of dermatological remedies. Indeed, to the specialist in cutaneous affections it would probably be impossible to find an adequate substitute for chrysarobin in the two conditions named. But this drug is frankly dangerous in the hands of the uninstructed or inexperienced and hence constitutes a very appropriate and worthy subject for the following notes.

## HISTORICAL.

The natives of Brazil used Goa powder—the crude product from which chrysarobin is obtained—for the treatment of skin diseases from the earliest times. The powder is said to have been brought from Brazil to Portugal about sixty years ago, and from the latter country it was introduced into English and continental pharmacology. According to Manquat (*Therapeutique*, i. p. 443), Balmanno-Squire and E. Besnier were chiefly responsible for its introduction into practical therapeutics, while the U. S. Dispensatory (19th ed., p. 187) credits this to Sir Joseph Fayer in 1874.

## NOMENCLATURE.

Before entering into a discussion of chrysarobin, a few words concerning the nomenclature are necessary to avoid confusion. In the literature of this drug, as well as that dealing with the treatment of psoriasis and tinea capitis, the reader will find references to:

Araroba Powder.

Goa Powder.

Chrysophanic Acid.

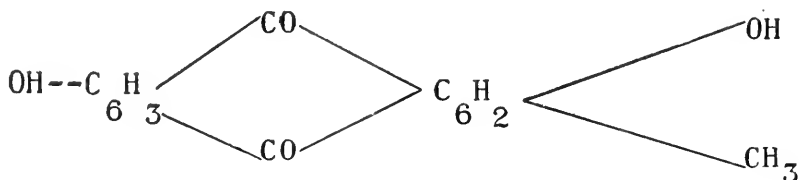
Chrysarobine (Aldersmith).

These terms are *not* synonymous. The products they refer to possess a certain similarity of action and may originate from the same source. From Aldersmith's description (Ringworm and Alopecia Areata, London, 1897, p. 167), the word chrysarobine (which also is the French spelling of chrysarobin) is apparently a trade mark of a firm of chemists in Bombay to designate their own brand of East Indian Goa powder. The term Araroba powder is rarely seen in modern medical literature and probably refers to pulverized scrapings from the wood in the central portion of the trunk of the Araroba tree. The Goa powder so much used in former times and chrysophanic acid will be described below.

GOA POWDER, which the U. S. Dispensatory (19th ed., p. 187) refers to as crude chrysarobin, occurs as brownish-yellow, rather fine resinous powder of light weight, which is found in clefts of the trunk of the *Andira Araroba*, a large tree growing in Brazil and India. In Brazil the powder is referred to as *Pó di Bahia*, while the East Indians call it Goa powder. This substance varies greatly in its therapeutic activity, and this pronounced lack of uniformity of action is responsible for its exclusion by the pharmacopœias of Europe and America. Probably for the same reason Goa powder is no longer used as such in the treatment of disease, but has been superseded by its glucoside and chief derivative, chrysarobin.

The U. S. Dispensatory (*loc. cit.*), states that Attfield's analysis showed Goa powder to contain 2% of resin, 5.5% wood fibre, 7% bitter extractives and 80 to 84% chrysophanic acid. Liebermann and Seidler, however, proved that the last named was not chrysophanic acid but a substance which is easily convertible into the acid and which they called chrysarobin and gave to it the formula  $C_{15}H_{10}O_4$ .

CHRY SOPH ANIC ACID ( $C_{15}H_{10}O_4$ ) is obtained mainly from rhubarb and senna and occurs as yellow or gold-colored, needle-like crystals and is almost tasteless and odorless. It is insoluble in water and but partly soluble in alcohol and ether. It is entirely soluble in chloroform, benzene, acetic acid, ammonia and most alkaline solutions, but is entirely insoluble when mixed with solutions of the alkaline bicarbonates. It does not possess the characteristics of a true acid. Chrysophanic acid may be distinguished easily from chrysarobin by the fact that the latter is insoluble in ammonia. Richaud (*Précis de thérapeutique*, p. 688) describes this acid as a diphenol of mixed function, which may be represented by the formula:





He states that this acid should not be used and that the substance employed by French dermatologists is really chrysarobin, although referred to as the acid.

The literature on the subject of chrysarobin is, as has been stated above, somewhat confusing, owing to the habit of the older writers of regarding chrysophanic acid and chrysarobin as synonymous, which they are not. This confusion is not diminished by the fact that, at the present time, French dermatologists prescribe both drugs, although the acid appears to be the more popular. The difference between the two substances may be described by stating that chrysarobin, upon oxidation, changes chiefly into chrysophanic acid. The latter, however, while forming the principal constituent of chrysarobin, is also obtainable from several other sources, among the latter rhubarb and senna. French writers prefer to use the acid because, unlike chrysarobin, it is a definite, permanent body, which is already largely oxidized and hence more reliable (even if much milder) in action. Clinically, chrysophanic acid is much less energetic in its effects than chrysarobin, particularly as a parasiticide, but it is also less prone to cause erythema and toxic symptoms due to absorption from the skin. C. J. Fox (*The Therapeutic Value of Chrysophanic Acid*, *Jour. Am. Med. Assn.*, 1906, No. 25) reported very favorable results from the use of chrysophanic acid. But W. G. Smith (*Notes on Chrysarobin and Chrysophanic acid*, *Proc. Dermat. Soc., Great Britain and Ireland*, *Brit. Jour. Dermat.*, viii, 1896, p. 281), in comparing the two drugs, found the action of the acid to be clinically much inferior to chrysarobin. It is probable that chrysophanic acid may be used to good advantage here in America for those of our patients who react too violently to chrysarobin applications.

In the following pages, chrysophanic acid will receive no further mention, and all notes will refer to chrysarobin exclusively.

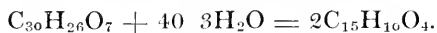
#### PHYSICAL PROPERTIES.

Chrysarobin (*Chrysarobinum*, U. S. P., B. P., P. G., P. Austr., etc.),  $C_{30}H_{26}O_7 = 494.46$ , is extracted from Goa powder by hot chloroform or benzole, evaporating to dryness and powdering. It occurs as a golden or orange yellow, microcrystalline powder, which is devoid of odor or taste and irritating to the mucous membranes. It has a specific gravity of 0.920 to 0.922. When exposed to the air, chrysarobin oxidizes readily and its color changes to a brown or dark brown. Hence the drug should always be kept in dark-colored, glass-stoppered bottles, and only the yellow-colored product should be used in compounding prescriptions.

#### CHEMISTRY.

In the fresh state, according to Wilcox (*Materia Medica*, 7th ed., p. 434), chrysarobin probably exists as a glucoside, which is slowly oxidized

into chrysophanic acid and glucose. Similar oxidation also occurs from exposure to air, water and alkaline solutions, thus:



The differences between chrysarobin and chrysophanic acid are described by Andouard (*Proc. Amer. Pharm. Assn.*, 1895, p. 864) and Liebermann and Seidler (quoted by the U. S. Dispensatory, 19th ed., p. 335). Chrysophanic acid is a dioxymethylantraquinone, while chrysarobin is a reduced quinone. Hence the affinity of the latter for oxygen, as the reduction products of the quinone class always tend to absorb oxygen and return to their original condition.

#### SOLUBILITIES.

Chrysarobin dissolves in the usual media in the following proportions:

- 4812 parts of water.
- 2170 parts of hot water (80°C).
- 308 parts of alcohol.
- Almost entirely soluble in hot alcohol, 90%,
- 18 parts of chloroform.
- 114 parts of ether.
- 25 parts of benzene.
- 30 parts of amyl alcohol.
- 230 parts of carbon disulphide at 25°C.

The drug is readily and entirely soluble in alkaline solutions, sulphuric acid, hot fats, hot benzene and hot chloroform. When mixed with the usual ointment bases, it is probable that only a small portion of chrysarobin is dissolved by the fats, while the rest is held in a fine, even suspension. Pouchet and Godard (*De la chrysarobine, Thèse de Paris*, 1886, p. 39) found that chrysarobin becomes active on the skin only after being dissolved by the alkalinity of the sweat.

#### INCOMPATIBILITIES.

The literature dealing with chrysarobin is disappointing to one who desires to learn of the incompatibilities. Ruddiman, in his book on the last-named subject (*Incompatibilities*, 3rd ed., p. 64), limits his information to a mere mention of the facts that the drug yields chrysophanic acid on oxidation and changes color when dissolved in alkaline solutions. Owing to the chemical reaction which chrysarobin undergoes when brought into contact with alkalis, the latter were formerly regarded as absolutely incompatible, but the universal success of Dreuw's ointment, which contains a large proportion of alkaline soap, renders this very doubtful as far as the physiological action is concerned.

It may be borne in mind that chrysarobin is what the text-books on pharmacy refer to as a readily oxidizable substance. Hence it should not

be mixed with chlorates, iodates, permanganates, picrates, nitrates and bichromates.

#### HISTOLOGY OF ACTION ON NORMAL SKIN.

Menahem Hodara (Histologische Untersuchungen über die Wirkung des Chrysarobins. *Monatsh. f. prakt. Dermat.*, xxx, 1900, No. 2, p. 53; xxxi, 1900, No. 6, p. 261; xxxii, 1903, No. 10, p. 561; and *Récherches histopathologiques sur l'action de la chrysarobine sur l'alopecie*, *Jour. d. mal. cutan., et syph.*, 1903, No. 9), has made investigations of exceptional thoroughness of the action of chrysarobin upon rabbits' ears, the normal human skin, and upon human skin affected by dry seborrhœic dermatitis, psoriasis and alopecia areata, and such of our readers as may be interested in these subjects are referred to the above-named articles, all of which are illustrated by many colored plates. Even Hodara's conclusions are too lengthy to be quoted here in full, but the following, which are from his third article, are worthy of citation:

1. Weak doses of chrysarobin (2 to 3%) on the normal skin of the scrotum produce a cloudy swelling and necrosis of the granular layer and the upper part of the stratum filamentosum, together with an increase in pigment in the germinal layer. The necrotic layers are exfoliated as thin brown scales.

2. In stronger doses (10%) chrysarobin produces a marked inflammation and œdema of the dermis, an inter- and intracellular œdema of the stratum filamentosum of the epidermis, together with the formation of vesicles. As these rise toward the surface, they, together with the œdematous filamentary layer, dry and form scales and crusts which contain yellow pigment and which are exfoliated. Beneath the necrotic filamentary layer we find a hypertrophied stratum germinativum with numerous mitoses. This results in the rapid formation of new and larger filamentary and granular layers covered by a young, clear, horny layer with little pigment. Similar changes occur in the hair follicles.

3. The dark color of the skin is caused by the staining by the chrysarobin of the horny layer and the increase in pigment of the basal layer.

Kopytowski (Beitrag zu den anatomisch-pathologischen Veränderungen der gesunden Haut nach Einwirkung von Chrysarobin auf dieselbe, *Med. i Kronika lek.*, 1912, No. 12, reviewed in the *Dermatologisches Centralblatt*, 1913, No. 9), applied a 10 to 12% chrysarobin ointment to the skin of the scrotum for 2 to 4 days. In comparing the action of chrysarobin with that of sulphur on the skin, Kopytowski found that it was similar in many respects, but with the following differences:

1. Chrysarobin causes marked parakeratosis, which is insignificant with sulphur.

2. He was unable to find any evidence of hyperkeratosis which could be attributed to the action of either drug.

3. Both drugs cause proliferation of endothelium.

4. Applications of chrysarobin produce greater lymphotaxis than those containing sulphur.

Generally speaking, the effects of chrysarobin in ordinary doses upon the skin resemble more or less those of other reductants, such as sulphur and resorcin, but, of course, both of the latter are infinitely milder and less rapid in action in both the epidermis and the dermis. Chrysarobin is essentially a stimulant to the dermis and the vascular dilatation, œdema and increased cell proliferation are evidence of its action.

#### ACTION OF CHRYSAROBIN.

EXTERNAL ADMINISTRATION. Chrysarobin, when applied in suitable dosage and in the proper manner, may act upon the skin in the following ways:

As a	Keratoplastic (in weak dosage).
	Keratolytic (in strong dosage).
	Reductant.
	Alterative.
	Vaso-constrictor.
	Rubifacient.
	Stimulant.
	Antiparasitic.

The action of chrysarobin upon the skin constitutes an extremely fascinating subject for the student of dermatological therapeutics and one, too, which will richly repay his efforts to acquaint himself with the many effects which is the drug is capable of producing. The action of chrysarobin upon the skin is due to the affinity of the drug for oxygen. If the drug has become oxidized through exposure to air or other improper handling, it will possess a dark color and its therapeutic value will be diminished. When applied to the skin, the oxidation of chrysarobin by the tissues is seen by the red, bluish-red, violet or purple color which appears and which is independent of the redness of the usual erythema. The rapidity with which such oxidation occurs differs greatly in individuals, but in general it may be said to depend more or less upon the volume of sweat and the degree of alkalinity of the latter. Thus, the drug acts slowly and irregularly in a patient who has a very dry skin, and rapidly and often violently on the skin of another patient who perspires freely or whose sweat is more alkaline (or, better, less acid) in reaction. The normal reaction of perspiration is faintly acid but, if the secretion be at all profuse, this becomes neutral and finally alkaline. The solvent and activating effect of alkaline solutions has been referred to in the paragraphs on the chemistry of the drug and this reaction, when it occurs on the skin, develops the maximum effect of the remedy.

**KERATOPLASTIC.** The first effect of the drug is to cause an increased keratinization in the epidermis or hardening and thickening of the horny

layer. If the latter be defectively keratinized, as in the parakeratosis of psoriasis, the drug penetrates through the scales and acts upon the underlying cells to form a new and stronger horny layer. This effect is produced by ointments of not more than 5%.

**KERATOLYTIC.** If larger doses—10% to 20%—are employed, the keratoplastic action occurs in such an exaggerated manner that the horny layer is rendered dry, hard and stiff and, while a new horny layer forms, the old one gradually separates from the underlying epidermis and is finally cast off in lamellæ, carrying with it any microorganisms it may contain. Thus chrysarobin is not a solvent of keratinized epidermis as is salicylic acid, but acts somewhat after the manner of resorcin, sulphur and ichthyol.

**REDUCTANT.** The hardening action upon the epidermal cells just described is due to their yielding their oxygen to the drug and thus acquiring prematurely the characteristics of the uppermost and oldest cells. The drug in a certain proportion goes through the epidermis, acts as an irritant and stimulant upon the papillary layer and chorion of the dermis and becomes a:

**RUBIFACIENT.** The drug produces vascular dilatation and the characteristic erythema. This, in case unusually strong doses are employed, may be so great that pronounced swelling and oedema, vesicle formation and softening of the connective tissue may result. Hodara states that the keratoplastic action of the drug forms a wall of keratinized cells, which enables the skin to limit the action and penetration of chrysarobin to some extent. This would appear to explain why chrysarobin often seems to lose its efficacy when it is employed for a considerable period of time.

**CUTANEOUS STIMULANT.** Chrysarobin is certainly one of the best cutaneous stimulants we possess. In chronic eczemas with dry surfaces and areas of tough, dermal infiltrations, as well as in certain other conditions with similar objective symptoms, chrysarobin is undoubtedly the best chemical agent we possess. By its sharp, stimulating, whip-like action upon the nerve terminals and torpid, dilated blood-vessels, it rouses both the dermis and epidermis to renewed efforts and in most cases causes the absorption of infiltrations and a return to approximately normal conditions.

**VASO-CONSTRICTOR.** That a remedy which acts as a rubefacient can at the same time be an excellent vaso-constrictor would appear paradoxical. Nevertheless, this is quite true of chrysarobin. It may produce an erythema resembling that of a local irritant such as mustard, but unlike the latter, chrysarobin stimulates the cutaneous blood-vessels, after the initial dilatation, to contraction. This is seen in the action of the drug upon a typical patch of psoriasis. Here, beneath the thick, micaceous scales, we have a surface of skin of a distinctly red color, due to vascular dilatation. After the remedy has been applied for some time, we find that while the adjacent normal skin may have become erythematous, the site of the psoriatic area is conspicuously pale, or even white in color.

This vaso-constrictor action seems to be limited to pathological areas and hence is elective. While chrysarobin is capable of producing inflammation, it acts in chronic inflammatory processes, as Paschkis states (Lesser, *Encyclopædie der Hautkrankheiten*, p. 70), as an antiphlogistic in causing their retrogression.

**ANTIPARASITIC.** The antiparasitic action of chrysarobin has been generally recognized by clinicians and disputed by laboratory workers. Campana (*Einwirkung des Chrysarobins auf einige Fermente und auf gewisse Schyzomyceten*, *Riforma med.*, May, 1890, reviewed in *Monatsh. f. prakt. Dermat.*, xii, 1891, p. 412), investigated the antiparasitic action of the drug on *Sarcina lutea*, *Staphylococcus aureus*, etc., and found it to be insignificant and incapable of preventing the development of these micro-organisms. Aldersmith (*Ringworm and Alopecia Areata*, London, 1897, p. 166) thinks that chrysarobin acts not simply as a parasiticide, but by setting up some inflammation and so loosening the stumps (of *trunc. capitis*). The diseased hairs come out and new downy hairs take their place. Some writers attribute the parasiticial effects of the drug to the rapid desquamation and consequent mechanical removal of the germs (W. G. Smith, Notes on chrysarobin and chrosophanic Acid, *Proc. Dermat. Soc.*, G. B. and I., *Brit. Jour. Dermat.*, viii., 1896, p. 281), while Paschkis (see above) and others, believe such action is due to the direct, reductant action of chrysarobin upon the parasites, thus killing them by taking the oxygen they contain.

#### SUMMARY OF THE ACTION OF CHRYSAROBIN.

Unna (*Resorcin und Ichthyol als Repräsentanten der Gruppe der reduzierender Heilmittel*, Hamburg, 1887, p. 15) tabulates the effects of reducing agents on the skin, of which chrysarobin is representative, as follows:

Dosage:	Weak doses cause:	Strong doses produce:
In any dosage.	<ol style="list-style-type: none"> <li>1. Increased keratinization.</li> <li>2. Staining of horny layer.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increased keratinization.</li> <li>2. Staining of horny layer.</li> </ol>
<hr/> Differences in clinical effects according to dosage employed.	<ol style="list-style-type: none"> <li>3. Itching.</li> <li>4. Reduction of inflammation.</li> <li>5. Reduction of swelling.</li> <li>6. Pustulation.</li> <li>7. Relief of pain.</li> </ol>	<ol style="list-style-type: none"> <li>3. Usually pain. Rarely itching.</li> <li>4. Inflammation.</li> <li>5. Swelling (œdema).</li> <li>6. Cures pustules and furuncles.</li> <li>7. Pain.</li> </ol>
<hr/> Effects produced by large doses only.		<ol style="list-style-type: none"> <li>8. Vesiculation.</li> <li>9. Softening of the connective tissue substance.</li> </ol>

## THE INTERNAL ADMINISTRATION OF CHRYSAROBIN.

Chrysarobin is absorbed by the skin, when it is used externally, the amount absorbed varying with the proportions of the drug in the vehicle, the mode of application of the latter and the condition and peculiarities of the patient's skin. Napier was much impressed with the many disadvantages of the external use of the drug and, also, observed a fact mentioned by Charteris (Chrysophanic Acid and Psoriasis, *Lancet*, April 23, 1881) that untreated areas of psoriasis disappeared after applications of chrysarobin to other, sometimes distant, areas. This, to him, demonstrated the action of the drug on the skin from within. He therefore decided to give the drug by internal administration. He (On the Use of Chrysophanic Acid Internally in Psoriasis, *Lancet*, May 20, 1882, p. 817) gave doses of 4 grains and gradually increased this to 48 grains within three months without apparent ill-effects to the patient and with much improvement in the psoriasis. The itching, erythema and scaling of the disease became less and gradually disappeared.

Napier states that the above treatment caused no gastrointestinal symptoms and the urine was cloudy and of strong odor, but otherwise normal. Napier, however, admits that larger doses produced vomiting and gastric pain, while in the case of a young boy, only one-third of a grain could be tolerated.

Stocquart, of Brussels (L'Acide chrysophanique administré par les voies stomacale et hypodermique dans le traitement des maladies de la peau. *Ann. de dermat. et de syph.*, 1884, v, p. 15, and Ueber die Behandlung des Eczems und der Impetigo bei Kindern durch innerlichen Gebrauch von Chrysarobin, *Monatsh. f. prakt. Dermat.*, 1886, v, No. 1, p. 1) gave chrysarobin in a suitable fluid vehicle to children in average doses of 0.01 daily. He claims that the results in acute, subacute and chronic eczemas were uniformly good, a cure being effected in 2 to 3 weeks without local treatment. He believes that when given internally, chrysarobin acts as a vasoconstrictor. Healing occurs through diminution of the secretion and the affected parts becoming pale. The internal use of chrysarobin has no effect upon the itching. Stocquart's report in the *Annales de dermatologie et de syphiligraphie* mentions 61 cases treated.

Unna (Die Missbrauchliche Bezeichnung des Chrysarobins als "Chrysophansäure," *Monatsh. f. prakt. Dermat.*, 1882, i, p. 254) writes to protest against the dangers in regarding the use of the terms chrysarobin and chrysophanic acid as synonyms and cites the internal use as an instance where the substitution of the former for the latter might cause severe nephritis and destruction of the red blood corpuscles. Unna tried Napier's treatment on two patients who finally acquired a tolerance for the drug and were able to take 0.15 of chrysarobin. After two months' use of the drug Unna could find no such favorable results as Napier reported

and stopped the use of the remedy. The internal use of chrysarobin has to-day been completely abandoned.

#### PREPARATORY TREATMENT.

In all cases where chrysarobin is employed, much time will be saved if the patient be made to undergo what Neisser has called a "preparatory treatment," which has for its object the removal of as many of the scales of the affected areas as possible, in order to allow the chrysarobin to develop its peculiar effect at once and without having to act first as an exfoliant or keratolytic. In this rôle chrysarobin is both unsatisfactory and more or less dangerous and much better results can be achieved with comparatively harmless agents, such as warm scrub baths, green soap and salicylic acid ointment. The latter, for large areas, may be of a 5% strength and should be rubbed in twice a day. For smaller patches, 10% may be used, while for small groups of lesions of long standing and with an unusual amount of scaling, I know of nothing which will prepare the surface as well as Unna's salicylic acid soap plaster of 10% to 20% strength.

Baths may be taken each night for a week by the patient and should be as warm as can be comfortably borne and should last 15 to 20 minutes, after which the scale-covered lesions should be rubbed with balls of fine excelsior, which has been dipped in soft green soap, which is then sponged off with water.

#### MODES OF ADMINISTRATION.

Chrysarobin may be applied in any of the following ways:

- As a powder.
- Spray.
- Solution.
- Collodion.
- Traumaticine.
- Gelatine.
- Ointment.
- Ointment plaster.
- Paste.
- Paste plaster.
- Paste pencil.
- Soap.
- Soap ointment.
- Soap plasters.

**POWDER.** Chrysarobin is not used as a powder, but the powdered drug is recommended by Alderswith (see paragraph on tinea) for ring-worm patches. The latter are scrubbed with soap and water and while



still moist, the powdered drug or Goa powder should be rubbed in thoroughly with the finger tip, protected by a rubber finger stall. The dangers and disadvantages of this form of treatment are too evident to require mention.

According to the U. S. Dispensatory (19th ed., p. 188) the powder is frequently used in chronic eczema and psoriasis by being rubbed up into a dough and spread upon the diseased part after the latter has been freed from scales by washing. As soon as the dough is dry, it should be covered by a layer of collodion and the whole allowed to remain for several days, when it is removed by washing and renewed.

**SPRAYS.** These are sometimes made with benzene as a vehicle, but chloroform is commonly preferred. A 5% solution is used. The adjacent normal skin is protected by zinc paste, the affected area sprayed with the mixture and, when dry, covered with collodion or a zinc oxide plaster to confine the action of the drug to the area treated.

Unna (*Chrysarobin*, *Monatsh. f. prakt. Dermat.*, 1883, ii, p. 79) recommends the following mixture as a spray:

R	Chrysarobini .....	0.2	
	Ceræ flavæ .....	0.3	
	Etheris .....	100.0	M.

**SOLUTIONS** in chloroform are painted on with a stiff brush, which assures better penetration. The area is then covered with zinc plaster.

**COLLODIONS** containing chrysarobin appear to be quite popular with many Continental writers. They represent a clean and comparatively safe method of using the drug and confining its action to one area. Ten per cent. is the strength usually employed. I have found chrysarobin collodion to be of very weak action, expensive and unsuited to any but small, widely disseminated patches. To be at all effective, the collodion must be applied twice a day after removal of the previous coating. While the removal of the old layer of collodion brings away many scales, it irritates the skin and easily causes an eczematous condition, which is further augmented by a tendency of the collodion film to crack and produce fissures. The inefficient action appears to me to be due to the fact that the drug is more or less buried in the vehicle which protects the skin from all but a small quantity. In ordinary cases, chrysarobin collodion should be applied to flat, non-hairy surfaces which are not subject to much flexion or tension. It is one of the best applications I know of for alopecia areata when the denuded surfaces are comparatively large.

**CHRYSAROBIN TRAUMATICINE.** This is usually prescribed as:

R	Chrysarobin.		
	Gutta percha.....	āā	10.0
	Chloroform .....	100.0	M.

What has been said above regarding the collodion will apply to solutions of the drug in traumaticine.

**GELATINE.** Pick, of Prague, appears to have been the first to advocate the use of the drug in a gelatine mixture. According to Ledermann (*Therapeutisches Vademecum*, p. 56), this consists of:

R	Chrysarobine .....	10.0	
	Gelatine .....	50.0	
	Aqua ad.....	100.0	M.

Sig.: Ext. Warm in a water bath until semi-fluid. Then apply to areas by means of a brush.

Joseph (*Handbuch der Kosmetik*, p. 180) recommends a gelatine mixture which he calls *gelanthum*, as a vehicle for chrysarobin. It contains:

R	Gelatin. liquid,		
	Tragacanth.....	5.0	
	Glycerini .....	5.0	
	Aqua dist.....	90.0	
	Acid. benzoic. art.....	0.3	
	Ol. rosæ .....	1.	M.

Unna (*Monatsh. f. prakt. Dermat.*, 1883, ii, p. 75) recommends the following formula:

		Weak:	Strong:	
R	Chrysarobini .....		10.0	
	Gelatine .....	5.0	5.0	
	Glycerini .....	90.0	85.0	M.

This gives a solid mass when cold, but quickly becomes fluid in a water bath and also dries rapidly after being applied with a brush. If the contractile pressure is too great, it can easily be relieved by painting the treated surface with a brush moistened in hot water and then allowing the surface to dry.

This method of applying chrysarobin has the advantage of allowing instant and thorough removal of the drug by warm water. Pick (*Chrysarobin gelatine*, *Verhandl. d. Vereins deutscher Aerzte in Prag*, Feb. 17, 1882) cites, as further advantages, that nephritis, conjunctivitis, erythema and staining of adjacent normal skin and clothing do not occur.

**OINTMENTS.** These undoubtedly constitute the most popular method of using chrysarobin, in spite of the many disadvantages, among which may be cited the staining of the normal skin near the areas treated, staining of clothing, danger of conjunctivitis, frequent staining of the finger nails and the difficulty, one might almost say impossibility, of limiting the action of the salve to the affected area. Ointments are made up in strengths of from one-half to twenty per cent. of the drug, the dose being greatly reduced when large surfaces are treated. The usual fat bases are used and often with one or more adjuvants. The official unguentum chrysarobin of the United States Pharmacopœia consists of a base of benzoinated lard with 6% of chrysarobin. The British Pharmacopœia requires the same ingredients for its official chrysarobin ointment, but with

only 4% of the drug. Hare (Therapeutics, 13th ed., p. 193) regards this as too strong for use and advises their dilution with 4 to 5 parts of benzoinated lard.

Among the simple ointments, that of Audry (Traitement des maladies cutanées, p. 154) is excellent. It consists of:

R	Chrysarobini .....	5.0-7.0	
	Ceræ flavæ,		
	Lanolini .....	40.0	-
	Ol. olivæ .....	30.0	M.

Audry advises this to be applied at night and replaced during the day by an ointment of equal parts of zinc oxide, lanoline and vaseline. This is to reduce the risk of a dermatitis. Leredde (Thérapeutique des maladies de la peau, p. 407) quotes another formula of Audry, which is:

R	Chrysarobini .....	10.0	
	Cocoa butter .....	75.0	
	Paraffin .....	10.0	
	Olive oil .....	5.0	M.

Stocquart (Chrysarobinsalbe, *Monatsh. f. prakt. Dermat.*, 1886, v. p. 286) has had excellent results with:

R	Chrysarobini .....	0.1	
	Benzini .....	0.2	
	Cerat. simpl. ....	20.0	M.

In spite of its feeble dosage, this ointment works well on account of the solvent action of the benzine on the chrysarobin. At the same time the irritation to the skin is slight.

Of the compound chrysarobin ointments, that of Unna (Zur Behandlung der Trichophytia capitis, *Monatsh. f. prakt. Dermat.*, 1889, x, No. 12) is much used:

R	Chrysarobini,		
	Ichthyoli .....	āā	5.0
	Acid. salicyl. ....		3.0
	Ung. simpl. ....	ad.	100.0 M.

Jessner (*Dermatologische Heilmittel*, p. 58) recommends:

R	Chrysarobini,		
	Ol. rusci (oil of birch) .....	āā	10.0
	Sapon. kalin.,		
	Mitin. pur. ....	āā	15.0 M.

This makes a very powerful medicament, which could hardly be used on any but small areas.

Of all chrysarobin ointments, there is little doubt that few if any are to-day as widely used as that of Dreuw (Ueber Chrysarobin und Pyrogallolsalben mit Alkalizusetz, *Monatsh. f. prakt. Dermat.*, 1909, xlix, p.

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531). It is the result, not of chance, but of a long series of painstaking experiments along both chemical and clinical lines. This matter will be referred to in the paragraphs relating to chrysarobin in the treatment of psoriasis. Dreuw's ointment is composed of:

R	Acid. salicyl. ....	10.0	
	Chrysarobini,		
	Ol. rusci .....	āā	20.0
	Sapon. virid. ....		25.0
	Adep. lan. hydr. ....	ad.	100.0 M.

(To be continued.)

REVIEW  
OF  
DERMATOLOGY AND SYPHILIS.

Under the direction of  
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DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Mar. 20, 1913, xxxix, No. 12.)

Abstracted by CLARENCE ALLEN BAER, M.D.

THE QUESTION OF "PARASYPHILIS." S. SCHOENBORN. p. 542.

Fournier's definition of parasyphilis, which was accepted by all authorities, is no longer tenable. The foundation of this definition was that the parasyphilitic diseases would not heal upon the administration of mercury and iodine and that no biological proof of syphilis could be demonstrated. The Wassermann reaction eliminates the latter statement and the former is much weakened because we know how mercury works in recent and old syphilis. The expression "parasyphilis" has become unnecessary. It is only a question of time when the neurologist shall consider tabes and general paralysis as syphilitic, rather than as metasymphilitic processes. Schoenborn adds a note that at the February meeting of physicians in Frankfurt, pictures of Noguchi's preparations demonstrating spirochaetæ in sections of the brain in general paralysis were shown.

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(*Ibidem*, Mar. 27, 1913, xxxix, No. 13.)

SEROLOGICAL EXAMINATIONS IN LEPROSY. B. MOELLERS, p. 595.

Moellers continued the serological examinations begun by Koch. Thirty-two lepers were examined. Sera were sent from Meinl, South Carpathia, Egypt, Bosnia and Japan. Four different tuberculin preparations were used as antigens. The patients were classified as follows: 20 nodular type leprosy, 8 nervous type leprosy, 4 mixed leprosy. The length of time of the illness varied; there were 13 for 1 to 5 years, 9 for 6 to 10 years, 4 for 11 to 20 years, 2 for 25 to 30 years, 3 could not say how long they were ill. In the nodular or mixed form 95 to 100% gave a positive complement-fixation reaction toward tuberculin preparations, while in the anæsthetic form, only 25% showed a positive reaction. In the blood serum of the lepers there was a stronger complement-fixing antibody towards an emulsion of tubercle bacilli, than towards the preparations made from the fluid derived from the cultures of tubercle bacilli. From the findings of tuberculo-antibodies in the blood serum of lepers, a conclusion that tuberculosis is present at the same time cannot be drawn. The complement-fixation was stronger, the further the disease was from the anæsthetic form and the nearer it was to the nodular. It seems probable, therefore, that this complement-fixing property depends on the wide dissemination of leprosy lesions in the body and that healed leprosy ought to give a negative reaction.

(*Ibidem*, Apr. 10, 1913, xxxix, No. 15.)

CONCERNING THE AUTOHEMOLYTIC PROPERTIES OF GUINEA-PIG SERUM. E. VON GIERKE, p. 692.

The author expounds and criticises an earlier article on the same subject by Carl Stern, which appeared in No. 9 of the *Deutsche medizinische Wochenschrift*.

EXPERIENCES WITH THE HERMANN-PERUTZSCHE SYPHILIS REACTION IN 600 CASES. FRITZ LADE, p. 693.

The method used in these cases was as follows: inactivate sera at 55° C. for one-half hour. To 0.4 serum was added 0.2 of a one-twentieth dilution of the Hermann-Perutzsche reagent and a 2% aqueous sodium-glycocholate solution. After thorough shaking, the tubes were allowed to stand unshaken for 20 to 22 hours. A flocculent precipitate was considered positive. The conclusions drawn from these 600 cases are that the Hermann-Perutzsche reaction will not replace the Wassermann reaction—certainly not yet, when the experiments are still comparatively few. Changes of time and temperature had no effects on the reaction, but a difference in the amount of serum used, easily changed a negative to a positive reaction. Serum can be kept for 8 days in a refrigerator without any effect on the reaction. Only once in 18 strongly Wassermann-positive sera was the Hermann-Perutzsche reaction negative. As with the Wassermann reaction, the intensity of the hæmolysis can be distinguished.

(*Ibidem*, Apr. 24, 1913, xxxix, No. 17.)

CONTRIBUTION TO THE ETIOLOGY OF ERYTHEMA EXUDATIVUM MULTIFORME. K. SAISAWA, p. 792.

The author reports in detail a case of erythema exudativum multiforme that was accidentally observed while making anti-typhoid vaccinations in the Japanese army. The symptoms corresponded to those of an acute infection. Bacteria

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were demonstrated in the blood and urine. Even after the drop of the temperature, the bacteria were found in the blood and urine for about two weeks. The polynuclear leukocytes were increased. The organism isolated was a rod with dull ends, from 0.4 to 0.6 microns long and 0.2 to 0.3 microns broad; it stained heavily with carbol fuchsin but faintly with methylene blue; Gram negative; free in blood but often within leukocytes; no growth on ordinary media for 2 weeks at 37° C; they increase in human blood but form no colonies; no growths in anaerobic cultures; could not definitely demonstrate bacteria in histological preparations of the lesions. Saisawa thinks his bacillus has some connection with the disease.

### CONCERNING THE AUTO-HÆMOLYTIC PROPERTIES OF GUINEA PIG SERUM AND THE CORRESPONDING ERRORS IN THE WASSERMANN REACTION. ALEX. ZALVIECKI, p. 797.

The author considers Stern's former article on this same subject and thinks the theoretical meaning of Stern's conclusions should not be confounded with the practical use of same, because the errors in the Wassermann reaction from this cause are very slight and may be disregarded.

### CONCERNING THE AUTO-HÆMOLYTIC PROPERTIES OF GUINEA PIG SERUM AND THE CORRESPONDING ERRORS IN THE WASSERMANN REACTION. ERNST JALOWICZ, p. 798.

## WIENER KLINISCHE WOCHENSCHRIFT.

(Mar. 28, 1913, xxvi, No. 12.)

Abstracted by E. L. McEWEN, M.D.

### IMPETIGO HERPETIFORMIS (HEBRA). RICHARD MAREK, p. 371.

Marek reports at length a fatal case of impetigo herpetiformis in a IV-para. In the latter half of the second and third pregnancies, she had suffered with cramps in the hands and feet, dyspnoea, and oedema of the legs, which symptoms had disappeared with confinement. At about the same time, in the last pregnancy, similar symptoms appeared, followed later by the skin manifestations of impetigo herpetiformis. Death occurred 20 days after artificial termination of the pregnancy, the skin lesions persisting to the end. In discussing aetiology, Scheuer's views are cited, namely, that the same toxæmia which produces eclampsia may produce impetigo herpetiformis; that as eclampsia can occur without convulsions, the toxic agent may be considered as made up of two components, one having a general toxic action, the other a specific convulsant action. Where the first predominates, the heart, liver and kidneys suffer great damage and death may occur without convulsions. From this viewpoint, cases of impetigo herpetiformis may be divided into three classes; (1) those in which the visceral organs and nervous system are alike affected; the skin manifestations are severe, and death occurs promptly; (2) those in which the nervous system is mainly affected, the skin lesions are pronounced, but recovery takes place because the visceral organs are intact; (3) those in which the visceral organs are principally affected, leading to fatal exitus, even though the skin lesions are healed. Marek calls attention especially to the fact that in his case a history of tetany both in this and former pregnancies preceded the outbreak of the skin trouble. Chronic tetany is often accompanied by disturbances in tissues of ectodermic derivation, as falling of the nails and hair, oedema of the skin, herpes zoster, urticaria, etc.

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Hence it is possible that impetigo herpetiformis is a result of a combination of the tetany and the intoxication of pregnancy, i.e., the skin under the influence of the former becomes a *locus minoris resistentiae*, wherein the effects of the latter may display themselves. He urges that search be made for the symptoms of a latent or manifest tetany in every case of impetigo herpetiformis. Both disorders show themselves in the latter half of pregnancy; the pustules of the skin disorder appear in the 7th or 8th month, and often but a short time before birth. He advises termination of pregnancy as soon as the diagnosis is made; it is not wise to wait for the viability of the child, since it is not possible to tell how extensively the visceral organs are damaged by toxins. It is doubtful whether the use of serum from healthy pregnant women is advisable, since results would be uncertain and delay dangerous.

(*Ibidem*, Apr. 5, 1913, lxiii, No. 13.)

Abstracted by E. L. McEWEN, M.D.

ICHTHYOSIS THYSANOTRICHIA. ST. WEIDENFELD. p. 926.

The author reports a case which he believes is identical with two others in the recent literature: one by V. Franke, (*Das Pinselhaar (Thysanotrix)*, *Dermat. Wchnsch.* lv, No. 41); the other by V. Nobl (*Trichostachis spinulosa*, *Arch. f. dermat. u. Syph.*, cxiv, p. 611). The disorder, as observed by Weidenfeld, consisted of comedo-like plugs seated in an area of the skin of the face, which was brownish in shade and leathery in texture; these plugs could not be expressed, but on removal with forceps, appeared as a bundle of fine hairs, brownish in color, and pointed. He regards the condition as due to malformation with hyperkeratosis within the follicles and proposes the name ichthyosis thysanotrichia as most suitable.

## MONATSSCHRIFT FÜR KINDERHEILKUNDE.

(1913, xi, No. 12.)

Abstracted by HARVEY PARKER TOWLE, M.D.

MILK ANAPHYLAXIS. HANS KLEINSCHMIDT, p. 664.

Kleinschmidt sought to obtain some light upon the relationship of milk to anaphylaxis by feeding experiments with guinea pigs. Although exceedingly interesting, the length of his article forbids mention of more than his conclusions. These are (1) that sound adult guinea pigs can be sensitized internally by cow's milk; (2) that it is immaterial whether the milk is cooked or uncooked, although milk which has been cooked fifteen minutes gives inconstant results because of the consequent reduction of the biologically active wheyalbumen; (3) that the milk albumen is chiefly concerned in sensitization, although there may also arise a condition of hypersensitiveness to casein; (4) that the states of hypersensitiveness to albumen and casein may be present simultaneously (polyvalent anaphylaxis). Recovery from casein-shock has no anti-anaphylactic effect as regards albumen; guinea pigs previously treated subcutaneously and by feeding are not rendered immune to internal shock; (5) local, cellular, anaphylactic processes, temperature anomalies, eosinophilia and anti-anaphylaxis are likewise absent; (6) on the other hand, animals which have received an appropriate amount of milk by mouth, when in the hunger state or after the administration of podophillin, are customarily refractory to a lethal, intracardial dose. Manifestations of a high degree of hypersusceptibility always follow the test injection; (7) the injection of the Berkefeld filtrate of raw milk produces a pronounced reaction

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in normal men and guinea pigs; (8) an intracutaneous reaction cannot be produced with in activated Berkefeld filtrate of cow's milk in guinea pigs which have previously received a single, subcutaneous injection of milk; (9) a positive reaction to inactivated Berkefeld filtrate of milk has never yet been observed in man.

(*Ibidem*, 1913, xii, No. 1.)

### THE ÆTIOLOGY OF SCARLET FEVER. MARTIN KRETSCHMER, p. 11.

Kretschmer has assembled in this one article short resumé's of a very large number of papers considering the subject from various angles. The arrangement of the various articles is very logical and orderly. All communications of the same phase are reviewed together. As a result, the reader can consider each portion as an entity from whose total the final conclusion is easily drawn. Without going into details, we may sum up by saying that the reader will emerge from the reading of Kretschmer's paper with much new information acquired, a clearer idea of the points of conflict and the trend of study and, finally, that the exact nature of scarlet fever has still to be determined. As Kretschmer states in his last paragraph, the search for the cause of scarlet fever has, up to date, been without result. It is his further conclusion that, although the streptococcus is constantly found in scarlet fever and its complications, yet contrary to the case in yellow fever and foot-and-mouth disease, serologic methods and animal inoculation fail to confirm the hypothesis that the streptococcus is the cause of scarlet fever. Moreover, enthusiasm has led to the publication of many alleged discoveries, none of which have withstood the test of investigation. Finally, the sparse reports of positive results by means of animal inoculation with filtered and unfiltered scarlet fever material are so conflicting that they can not be accepted without further confirmation.

### LA CLINIQUE INFANTILE.

(March 1, 1913, xi, No. 5.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### WHAT IS THE GERM OF SCARLATINA? LEVADITI. (Abstracted from *La biologie médicale*, p. 154).

Levaditi's conclusions are that the inoculation of apes, especially the anthropoid, with the products of scarlatina produces a morbid syndrome more or less resembling that of this disease. Apparently, the experimental result is caused by the scarlatinal virus. However that may be, the resulting disease symptoms are not caused by the streptococcus. Accepting the product of the experimental inoculation as scarlet fever in fact, the conclusion cannot be avoided that the virus must reside in the tonsillar and lingual "depots," the blood, the lymph ganglia and, probably, in the pericardial fluid. Nevertheless, the nature of the ætiological factor of scarlatina still remains unknown.

(*Ibidem*, April 15, 1913, xi, No. 8.)

### CONGENITAL MYXŒDEMA IN A YOUNG MAN, FOLLOWED AND TREATED BY THYROID ŒOTHERAPY SINCE HE WAS EIGHT YEARS OLD. ZÜBER, p. 235.



# LA CLINIQUE.

(Oct. 11, 1912, vii, No. 41.)

Abstracted by FAXTON E. GARDNER, M.D.

## BUCCAL LEUKOPLAKIA AND ITS TREATMENT. SABOURAUD, p. 646.

Sabouraud contends that next to common, so-called para-syphilitic leukoplakia, there exists a genuine leukoplakia, much less frequent, which has nothing to do with syphilis. But both have an unfortunate tendency to degenerate into cancer. The only treatment Sabouraud considers as adequate is destruction of the patch by means of the galvano-cautery, in several sittings, if necessary. The burning must be neither too superficial nor too deep. This treatment always gives a perfect cure. None other is reliable.

## SALVARSAN AND SYPHILIS OF THE NERVOUS SYSTEM. (*Concluded* in No. 44.) EMERY AND BOURDIER, p. 648.

(*Ibidem*, Nov. 1, 1912, No. 44.)

## SALVARSAN AND SYPHILIS OF THE NERVOUS SYSTEM AND OF THE EYE. EMERY AND BOURDIER, p. 694.

The authors dwell upon the nervous manifestations of syphilis, either early in the secondary period, or later. There is frequently a latent meningeal syphilis, for the diagnosis of which ocular symptoms are very important. Cytology of the cerebrospinal fluid and the Wassermann reaction do not supply information as valuable as clinical findings. However, they teach us that regression of cerebrospinal leucocytosis is obtained only by frequent salvarsan treatments, while single injections at long intervals remain fruitless in that respect. The only rational treatment is that which keeps patients for months under the influence of small doses, repeated in courses at frequent intervals.

Tabes is no contraindication to salvarsan treatment, which often has a remarkable influence on lightning pains and gastric crises; the genito-urinary symptoms are also improved.

(*Ibidem*, Nov. 15, 1912, No. 46.)

## ACCIDENTS OF SALVARSAN THERAPY. EMERY AND BOURDIER, p. 729.

The symptoms and disturbances belong to three groups: toxic accidents, neurorecurrences, reactivation phenomena. They are due, not to salvarsan itself, but to the defective way in which it has been used.

(*Ibidem*, March 28, 1913, viii, No. 13.)

## MERCURIAL SUPPOSITORIES. SABOURAUD, p. 197.

Sabouraud has seen a brilliant success in a case of very obstinate malignant syphilis after the use of mercurial suppositories. He was led to choose the rectal administration because it was the only one that had not been tried and failed. It may be that this efficacy is explained by the fact that rectal administration is the one that leads mercury most directly to the liver, the secretion of which seems to be necessary both to the action of salvarsan and mercury. Mercurial suppositories are very active and also devoid of unpleasant or telltale features. One grain of mercury in cocoa-butter is the dose.

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(*Ibidem*, May 30, 1913, No. 22.)

TREATMENT OF ANGIOMATA AND NÆVI WITH HOT AIR. VIGNAT, p. 313.

Hot air (1400°F.) the author deems the best method of treatment. The field is prepared as for a major operation: the patient is anæsthetized with chloroform, *not* with ether. Vignat describes the apparatus and his technique. He claims for the method very rapid results and perfect scars.

(*Ibidem*, June 13, 1913, No. 24.)

JAUNDICE AFTER SALVARSAN INFUSION. EMERY, p. 372.

Emery had a series of seven cases of catarrhal icterus, while before he had had no example of this untoward sequela. From a review of the evidence at hand, he exculpates salvarsan and blames a water impurity, the water in these particular cases having been distilled in a metal still, while glass only should be used.

## ANNALES DES MALADIES VÉNÉRIENNES.

(March, 1913, viii, No. 3.)

Abstracted by FAXTON E. GARDNER, M.D.

TREATMENT OF SYPHILIS BY HECTINE INJECTIONS. DUDUMI, p. 161.

The writer reports five cases of gummous lesions of the face (ulcerated and non-ulcerated) cured by hectine treatment, and concludes that such lesions are cured by 5.20 gm. of 25 intramuscular injections of 0.20 gm. hectine, without any other treatment. However, mercury and iodine must be given later, to prevent recurrences. The author considers hectine a much safer drug than salvarsan or neosalvarsan.

A CASE OF ACUTE ANTERIOR POLIOMYELITIS THREE MONTHS AFTER LUETIC INFECTION. TOUCHARD AND MEAUX-SAINT MARC, p. 191.

Report of the case and discussion of the elements that seem to justify a diagnosis of syphilitic poliomyelitis.

A CASE OF SPASTIC PARAPLEGIA TWO MONTHS AFTER AN INTRA-VEINUS INJECTION OF SALVARSAN. BACHMAN, p. 201.

The patient had a chance in June, 1910; an injection of 0.60 gm. salvarsan was given in August, 1911. Spastic paraplegia developed in October, 1911. There was very slow improvement under the influence of mixed treatment and two more salvarsan infusions.

## PRESSE MÉDICALE.

(March 1, 1913, No. 18.)

Abstracted by FAXTON E. GARDNER, M.D.

NEW METHOD FOR INTRAVENOUS INFUSIONS OF NEOSALVARSAN. RAVAUT, p. 171.

Water imperfections are not to blame for all of the reactions observed after infusions of neosalvarsan. However, freshly distilled water, without sodium

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chloride (which alters neosalvarsan) is the only acceptable solvent for intravenous infusions. With the quantities commonly used, these solutions cause hæmolysis, whatever has been said to the contrary notwithstanding. Ravaut has determined the amount of pure distilled water which, with neosalvarsan does *not* cause hæmolysis. This amount is 10 cc. for 0.45 gm. and 0.60 gm. neosalvarsan, and 15 cc. for 0.75 gm. and 0.90 gm. doses. He has given 187 injections with these amounts (injecting directly with a syringe) with very satisfactory results. Concentrated solutions are perfectly well borne.

(*Ibidem*, April 2, 1913, No. 27.)

### TECHNIQUE OF OILY INTRAMUSCULAR INJECTIONS OF ARSENO-BENZOL IN THE TREATMENT OF SYPHILIS. BALZER, p. 261.

Balzer has extensively used this method and finds it painless and satisfactory. He gives the following table for the treatment of a case of syphilis:

- 1st year. First course of 5 or 6 injections of 0.30 gm. neosalvarsan.  
Second course of 3 or 4 injections of 0.30 gm. neosalvarsan.  
Third course of 3 or 4 injections of 0.30 gm. neosalvarsan.
- 2nd year. Two courses of 3 to 4 injections each.
- 3rd year. One or two courses of 3 to 4 injections each.
- 4th year. One course of injections.

(*Ibidem*, May 3, 1913, No. 36.)

### IMPORTANCE OF CUTANEOUS EXANTHEMATA IN THE DIAGNOSIS OF LEUKÆMIC AND ALEUKÆMIA CONDITIONS. NANTA, p. 361.

Report of a case in which the presence of an exanthem, polymorphous and pruriginous, with urticaria, led the author to the correct diagnosis of leukæmia. Particularly characteristic are large nodes topped with vesicles. In the presence of a polymorphous eruption with multiple adenopathy, the diagnosis of leukæmia must always be thought of.

## GAZETTE DES HÔPITAUX.

(Nov. 7, 1912, lxxv, No. 127.)

Abstracted by FAXTON E. GARDNER, M.D.

### SYNCOPE FOLLOWING INTRAVENOUS ADMINISTRATION OF SALVARSAN. TRADKING, p. 1762.

After this incident, it was found that the apparently healthy and strong individual had a permanent bradycardia and a Stokes-Adams symptom complex. The latter, and not salvarsan, is to blame.

(*Ibidem*, Jan. 30, 1913, lxxxvi, No. 12.)

### A CASE OF MENINGO-ENCEPHALITIC REACTION AFTER NEO-SALVARSAN TREATMENT.

The most probable hypothesis is the activation by salvarsan of a latent meningo-encephalitic condition. The case cited by the author recovered.

## REVISTA CLINICA DE MADRID.

(Oct. 15, 1912, iv, No. 20.)

Abstracted by A. RAVOGLI, M.D.

## PEMPHIGUS FOLIACEUS. TREATMENT WITH SALVARSAN. JUAN DE AZUA.

The author reports a case of pemphigus foliaceus, because many cases described as such have never been pemphigus foliaceus, but were nothing else than an erythrodermic condition with formation of bullæ or with a general desquamation.

The dermatosis and the general condition of the patient are minutely described; there was no history of tuberculosis and no syphilitic antecedents; the Wassermann was negative. The excoriations resulting from the bullæ caused great pain; the exudation was very abundant, giving an acid nauseous odor. The patient died sixty days after admission to the hospital.

The urine showed albumin. The differential count of the blood showed an increase in the leucocytes and very little eosinophiles, which are so abundantly found in the dermatitis herpetiformis of Duhring.

The author, under the impression of the efficacy of arsenic in pemphigus, resolved to try salvarsan. An injection of 0.1 was given intravenously, without any inconvenience. The temperature rising two degrees, a second injection was given in the same quantity and the same rise in the temperature was noted. A third injection was given four days later, of 0.15 without subsequent reaction.

The therapeutic effects noted were a sense of well-being, a better local condition of the skin, less pruritus and less exudation, with more abundant exfoliation. Another injection of salvarsan was given, causing the temperature to be raised. Albumin and casts reappeared in the urine. The pulse became frequent, and diarrhœa became very serious; the patient died.

The autopsy revealed the most interesting alterations in the kidneys, which were affected with turbid degeneration of the epithelium of the tubuli; in some places granular degeneration was present.

The author had some inclination to admit as a causal factor, the presence of bacilli. He refers to the observations of Hazen, who could cultivate the bacillus pyocyaneus from the serum of the bullæ, from the blood and urine. He has found the septic vibrio, which very likely has a causal connection with pemphigus foliaceus.

(Ibidem, March 15, 1913, v, No. 6.)

## ACANTHOSIS NIGRICANS. JUAN DE AZUA, p. 201.

The author believes it is of great importance to publish these rare cases, on account of their relation to abdominal cancer. His case is the first amongst 50,000 patients affected with skin diseases in his experience.

The patient is 62 years old, strong and robust, with a history of paludism and pneumonia. The present disease started without general symptoms, only the hands and forearms were somewhat dark brown. The tongue was dark and hindered in its motions. The dark color extended to the ano-genital and submaxillary regions, in which small papillomatous vegetations were prominent, together with black discolorations. At the same time the whole surface of the skin was becoming pigmented and lesions already existing, increased in size. On autopsy, small, black papillary growths were found in the pelvis, and the tongue and lips were studded with the same proliferations. The hairy scalp,

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the umbilicus and old eczematous patches were all covered with black papillary vegetations.

The article has two clinical illustrations, one showing the papillary condition of the neck and the other of the submaxillary region. A microphotograph shows the hypertrophy of the papillary layer.

The case is classed with the malignant form of *acanthosis nigricans*.

(*To be continued.*)

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(*Ibidem*, April 1, 1913, ix, No. 7.)

ACANTHOSIS NIGRICANS. JUAN DE AZUA, p. 254. (*Concluded*).

Azua believes that in grave cases of *acanthosis nigricans* the skin has greatly suffered from the causal factor, which is revealed by the papillomatous pigmentation. The pigment is not always generally distributed as in his case; in some cases it shows in limited patches and in other cases in linear disposition. He agrees with Bogrow that there are two kinds of pigmentation, one homogeneous and generally diffused, the other irregularly diffused. In all these cases the patients were affected with internal carcinoma, to which the pigmented papillary growths had to be attributed. Together with this condition of the skin, has to be considered the papillomatous condition of the mucous membranes; in fact in his case the lips, the gums, hard and soft palate, tongue and pharynx were studded with bluish pigmented papillary growths, which in some cases are found early, in others only when the disease is at an advanced stage.

The author considers some cases of *acanthosis* to be of benign type. The malignant cases do not last over 2 years, while the cases of benign type may last for 20 or 30 years, without physical suffering. In 10 cases of malignant type, 9 were affected with carcinoma, and in one case myocarditis. In general, the etiology of *acanthosis nigricans* is connected with a carcinoma or sarcoma in the abdominal or in the pelvic cavity. The author thinks it to be due to the influence of the tumor on the abdominal sympathetic system.

Azua gave the patient an intravenous injection of 0.2 salvarsan, after which the fever diminished and in ten days had entirely disappeared. Encouraged by the results, he gave the patient two more injections of salvarsan of 0.3 each, and the patient gained 11 kilo and lost the cachectic aspect, so much so that the author inclines to the belief that *acanthosis nigricans* may also be due to syphilis in a cachectic form. The conclusion of the author is that when a cancerous tumor is found in the abdominal or pelvic cavity, surgical operation is necessary; but when there is a possibility of syphilis being present, anti-syphilitic treatment should be pursued.

(*Ibidem*, June 1, 1913, v, No. 11.)

HYPOPHYSIARY TUMOR WITH CONGENITAL ADIPOSITY IN TWO BROTHERS. F. ROZARAL FARNES, p. 401.

The author states that the diseases of the hypophysis have neoplastic characters. Acromegalia is one of the diseases of hypophysiary origin, probably from the compression made on this gland with its subsequent reaction. It has to be considered more as a form of hyperpituitarism, due to an exaggerated function of the gland. The tumors which give origin to acromegalia are always benign adenoma, a hyperplastic condition from a functional exaggeration. He refers to the studies and to the experiments of Fisher, tending to prove that the exaggeration of the function of the anterior lobulus of the hypophysis causes acromegalia, which is a constant companion of benign adenomatous tumors. It

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is true, on the other hand, that tumors of the hypophysis are not followed by acromegalia, nor by general adipositas. But the idea of Fröhlich, that tumors at the base of the skull can produce adiposity, is still tenable.

Farnes speaks of the interesting function of the posterior lobulus of the hypophysium, which produces extracts with tonico-cardiac and tonico-muscular properties. He mentions the works of Ascoli and Legnani, in connection with the removal of the hypophysis, which causes suspension of development, of ossification, of dentition, alterations of nutrition, of sexual power, and disturbances of other intracranial glands. When disturbances are found, it will be logical to suspect disturbances of the hypophysiary gland. Obesity and hypogenitalism are the result of impaired function of this gland. These cases of intracranial tumors are accompanied by symptoms of cephalalgia, vertigo, vomiting and tension of the cephalo-rachidian fluid. In consequence of hypophysiary tumors, hemianopsia bitemporalis is a constant symptom, due to compression of the optic route to the chiasma.

The pituitary extract has a great influence on diuresis, and also on the glycogenic function; in many cases of hypophysiary tumors diabetes insipidus has been found to exist.

Photographs of the two brothers are shown, both affected with hypophysiary tumor and showing the Fröhlich syndrome. This comprises short stature, very marked adiposity, muscles not developed, rudimentary genital organs, absence of the genitals, horizontal nystagmus, difficulty of vision, etc.

The radiography of the skull did not show alteration of the sella turcica. The Wassermann reaction in the father and both brothers was negative; spinal puncture was refused. The hands of both brothers were very large and deformed.

The alterations of the vision show atrophy of the optic nerve toward the temporal side, which corresponds to the pressure made on the optic nerve by the hypophysiary neoplasia.

The author dwells a long time on the aetiology of the hypophysiary tumors and infantilism. From the Wassermann test made in both of his cases he is inclined to eliminate syphilis as an aetiological factor, and would rather admit some ideal teratological alterations of the hypophysis during foetal life.

The treatment should be directed at the systemic alterations which are produced in the organism by the action of the diseased glands. If nothing can be done by medical treatment, surgical intervention is required to reach the gland, either by the intranasal route or by the opening of the cranium.

## REVISTA DERMATOLOGICA: ORGANO OFICIAL DE LA SOCIEDAD DERMATOLOGICA ARGENTINA.

(1912, v, No. 4.)

Abstracted by A. RAVOGLI, M.D.

### SALVARSAN. BALDOMERO SOMMER, P. 5.

The author deals with the remedy, its composition, manner of employment, and the brilliant results he has obtained. He strongly stigmatizes those physicians who have promised with only one injection a perfect cure to their patients, who, after a while, suffered the ravages of late syphilis.

### NEOSALVARSAN. BALDOMERO SOMMER AND NICOLAS V. GRECO, p. 26.

The authors speak of neosalvarsan as a great advance in the treatment of syphilis. They refer to some personal experiences with intravenous injections.

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### ON TWO CASES OF PURPURA ANNULARIS TELEANGIECTODES (MAJOCCHI). PEDRO L. BALINA, p. 38.

The most important pathological lesions are found in the derma; the capillaries are dilated in the subpapillary layer; these blood vessels are congested and the surrounding tissues infiltrated with small leucocytes. In the derma, the blood vessels appear also congested and filled with blood corpuscles. The central portion of the eruptive lesion has an atrophic appearance. The derma is in a sclerotic condition, thick with fibrous changes of its tissues, the sebaceous glands nearly disappeared.

The author points out the clinical characters as given by Majocchi: livid-red patches made up of congested and dilated capillaries with consequent hæmorrhage in connection with the hair follicles; eccentric progression of the spots forming the ring; symmetrical disposition; the beginning of the affection usually on the lower extremities; no itching nor alteration of the sensibility; ending in atrophy, light achromia and alopecia.

The three important stages of this dermatosis can be reduced to the telangiectatic period, hæmorrhagic-pigmentary stage, atrophic stage.

In the cases under the observation of the author, in one there had been syphilitic antecedents, but he believes that there is no connection with this disease and syphilis. In the second there were no syphilitic antecedents and the Wassermann was negative. Not even much relation to tuberculosis could be found, but in both cases were present stomach and intestinal alterations of chronic course, which have probably caused the affection.

### CASE OF MYCOSIS FUNGOIDES. NEOCLE RAGUSIN, p. 43.

The author reports a case of this disease in a well developed young woman. The disease began as eczematous patches on the arms, with intense itching. The granulomatous tumors are developing at present on excoriated surfaces from vesicles or bullæ, which for a while had the appearance of a case of dermatitis herpetiformis (Duhring).

### APPLICATION OF FIBROLYSIN. JOSE A. RAICES, p. 48.

The author has used fibrolysin in cases of affections where sclerotic tissue was present, with good results. One case was stricture of the esophagus, which, with 10 injections of fibrolysin, was improved. The second case was an extensive scar of the arms and hands from a burn; after 11 injections he claims that there was improvement. The third case was one of scleroderma in patches, which he states, after 25 injections was nearly brought to the normal.

### PEMPHIGUS. NICOLAS V. GRECO, p. 51.

The author does not think that the word pemphigus should be applied to all bullous eruptions; he wants it limited to a morbid entity which is chronic, grave and nearly always fatal. He disclaims the necessity for the word pemphigoides, which would indicate eruptions appearing like bullæ.

He mentions the affections in which bullæ occur as an epiphenomenon: bullous leprides, papulo-bullous syphilides, bullous erysipelas, ecthyma, rupia, impetigo. In a second class which the author separates from pemphigus, are included dermatitis bullosa contagiosa of the newly-born (also called pemphigus acutus neonatorum) blastomycosis vesico-bullosa, pemphigus vegetans, varicella bullosa, eczema rubrum, eczema with giant vesicles, lichen planus bullosus, urticaria bullosa, erythema bullosum, hydroa, bullous eruptions from remedies, toxycodermia bullosa, epidermolysis bullosa, dermatitis herpetiformis, etc.; all these bullous eruptions have no relation to pemphigus.

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The last part of the article is reserved to pemphigus, which he calls pemphigus verus. The eruption is monomorphous and the bulla is its only exponent. When the fluid of the bulla is violet in color or contains blood, pemphigus is of a very infective nature. He refers to a case of pemphigus in his hospital service, giving a clinical illustration, and calls attention to the condition of the urine, which he found sometimes greatly diminished, the presence of albumin, which greatly varies, and the increased quantity of urea. He considers very important the increase in the temperature, especially at each new eruption of bullæ. He believes the eruption to be an infectious process, as the result of a specific bacillus, basing his views on a cytodiagnostic examination. He has found in his cases eosinophilia as high as 45 to 68%.

He calls attention to the evolution of pemphigus as gradual, lengthy, with constant aggravation of the local and of the general condition and with a fatal termination. He distinguishes pemphigus chronicus vulgaris gravis from the benign form, where there are successive attacks with some periods of improvement, good general condition and final recovery.

He describes a case of febrile pemphigus acutus gravis, of which he gives an interesting clinical illustration. He closes his article with a consideration of pemphigus foliaceus and dermatitis herpetiformis, which he considers to be separated from the group of true pemphigus.

### ADULT WITH SYPHILIS AND APPARENT REINFECTION AFTER 18 MONTHS. PEDRO L. BALINA, p. 96.

The author describes a patient who had had a characteristic hard chancre on the penis with enlarged lymph-glands; eighteen months previously he had been in the hospital with a severe case of syphilis. Balina believes that there is a regional disappearance of spirochætæ in the tissues, and that this prepares the parts, leaving the immunity from the first infection to receive a second infection.

The reinoculated region may show a typical evolution of a chancre, while the patient has yet secondary or tertiary manifestations from the primary infection.

## AMERICAN JOURNAL OF DISEASES OF CHILDREN.

(June, 1913, v, No. 6.)

Abstracted by HARVEY PARKER TOWLE, M.D.

### PAPULO-NECROTIC TUBERCULIDES IN INFANTS. BENNO M. WRONKER, p. 447.

After a brief summary of the history, symptomatology and pathology, Wronker gives brief histories of nine cases, all of which, with one exception, occurred in infants less than one year of age.

Quoting Leiner and Spiegler (*Ergeb. d. inn. Med. u. Kinderh.*, 1911, p. 66), the writer gives the following requisites for placing a skin affection among the tuberculides: (1) The finding of bacilli in sections, by culture or by inoculation. (2) Tuberculin reactions. (3) Histological findings. (4) Occurrence of other manifestations of tuberculosis.

As to the pathology of the disease, still adopting the views of Leiner and Spiegler, the writer describes the changes in the epidermis as necrotic in the older children and exudative in the younger. Thence the tubercular process can be followed downward along the course of the hair follicle. Centrally, there is necrosis; about it, there is a cellular infiltration either of small round cells



or of lymphocytes, epithelioid, giant and connective tissue cells. A thrombosed or obliterated vessel is frequently found within the necrotic area with, occasionally, tubercle bacilli in the surrounding zone. There is often a small celled infiltration about the sebaceous glands and the hair follicles. Frequently, the changes are not at all typical of tuberculosis but merely "a non-characteristic piling up of cells in the upper layer of the corium."

The eruption is more common than is usually supposed, but because the lesions are so small and so scanty, is easily overlooked. The writer has made it a practice to look for manifestations of the disease in every case "with a history of chronic cough, frequent 'colds,' loss of weight, pallor, intermittent, recurrent or continuous fever and where there is a general glandular enlargement." Whenever found, he has been able to make a positive diagnosis of tuberculosis earlier than would otherwise have been possible. Moreover, he declares that the presence of the eruption has considerable prognostic importance, more so than in adults.

It is noticeable that in the cases reported the number of lesions was very small. In some cases but a single papule was found. Nevertheless, even when the von Pirquet test was negative, Wronker did not hesitate to make a diagnosis of tuberculosis. Subsequent signs confirmed the diagnosis sooner or later. In his nine cases, his diagnosis was made by the finding of papulo-necrotic tuberculides.

The prognosis, when tuberculides are present, is bad, but not, as some writers believe, absolutely fatal in every case.

Wronker considers the eruption absolutely pathognomonic and, in the majority of cases, indicative of a general miliary tuberculosis. While a positive von Pirquet helps to clinch the diagnosis, its absence does not rule it out.

(*Ibidem*, June, 1913, v, No. 6.)

THE DIAGNOSTIC VALUE OF THE VON PIRQUET TEST. F. L. WACHENHEIM, p. 446.

The present paper adds 50 cases to those reported in July, 1912, bringing the total up to 100. The results of the newer series confirm those of the earlier, to wit, that most of the children of the East Side who look tuberculous are, in reality, free from that disease and that, on the other hand, a positive von Pirquet reaction should be regarded with the utmost seriousness and the possessor treated as at least the potential victim of a serious tuberculous lesion.

## PEDIATRICS.

(April, 1913, xxv, No. 4.)

Abstracted by HARVEY PARKER TOWLE, M.D.

THE DIAGNOSIS OF CONGENITAL SYPHILIS. EDITORIAL, p. 211.

A recapitulation of a few chief factors in the diagnosis.

(*Ibidem*, May, 1913, xxv, No. 5.)

THE NATURE OF ACNE AND IMPETIGO. EDITORIAL, p. 273.

The Editor wonders how Payne's idea that the staphylococcus is the cause of acne ever gained ground. Bacterial and clinical evidence both show that acne has no connection whatever with other bacterial diseases but is probably caused by the bacillus of Gilchrist.

Regarding impetigo contagiosa, the writer states that the disease lacks the

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clinical ear marks of a staphylococcic infection, on the one hand, and that it is absurd to connect so mild and harmless an affection with the streptococcus, on the other hand.

### BIOCHEMICAL BULLETIN.

(January, 1913, xi, No. 6.)

Abstracted by HARVEY PARKER TOWLE, M.D.

IMMUNITY IN SOME OF ITS BIOCHEMICAL ASPECTS. CHARLES FREDERICK BOLDUAN, p. 247.

Notwithstanding the awe inspired in the average physician by the name of the Journal in which this article is published, those who read it will be rewarded by an unusually lucid explanation of the many factors which enter into the study of immunity. Physicians interested in the general subject of immunity, even though lacking biochemical knowledge, will find Bolduan's paper well worth their time.

INFLUENCE OF CANCER EXTRACTS ON LUPIN SEEDLINGS. JACOB ROSENBLUM, p. 229.

Müller (1889) claimed that the cachexia of cancer was the result of a specific toxic action by cancerous tissue. Although Müller's studies have received certain confirmation from other workers, the opinion prevails that the cancer cachexia is not specific. The writer has endeavored to study the question by noting the effects of variously obtained cancer extracts upon the growth of lupin seedlings. His results yielded nothing conclusive.

(*Ibidem*, April, 1913, xi, No. 7.)

A METHOD FOR THE DETERMINATION OF TRYPTOPHAN DERIVED FROM PROTEIN. JESSE A. SANDERS AND CLARENCE A. MAY, p. 373.

The importance of this communication lies in the fact that tryptophan is produced in the tryptic digestion of protein and, in putrefaction, yields indol. So far the tryptophan yield has been determined qualitatively in two proteins only, casein and wheat gliadin. Other proteins, and especially gelatin, fail to respond to the usual tests. The present test methods demand considerable amounts of protein. The author's method, based upon the determination of small amounts of indol, overcomes that objection.

### KENTUCKY MEDICAL JOURNAL.

(May 1, 1913, xi, No. 9.)

Abstracted by CHARLES GOOSMAN, M.D.

SYMPOSIUM ON PELLAGRA. J. G. OWSLEY, M. W. STEELE, W. F. GARDNER, O. P. NUCKOLS AND J. H. HENDREN, p. 347.

The writers believe that there is a relationship between pellagra and hookworm. On account of the diarrhoea from which the pellagrins suffer, it may be difficult to find the hookworm eggs, although the other members of the family may show them in abundance. In many cases of pellagra, treatment directed against the hookworm improves the symptoms of the pellagra. Although hookworm infection is common in the colored population, they suffer fewer symptoms than the whites and the incidence of pellagra is also less.

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### UNITED STATES PUBLIC HEALTH SERVICE.

(Reprint No. 120 from Public Health Reports.)

(March 7 and 14, 1913.)

Abstracted by CHARLES GOOSMAN, M.D.

#### PELLAGRA; A REPORT ON ITS EPIDEMIOLOGY. R. M. GRIMM.

Of 1,426 cases investigated in Kentucky, South Carolina and Georgia, white females constituted 60.4%, white males 25.3%, colored females 10.2%, and colored males 4.1%. The colored population in all these districts was large, in some places equaling or even outnumbering the whites.

Grimm believes that neither insect dissemination nor improper food can be excluded, as yet, from the ætiology. Every case gave a history of the more or less regular use of corn products as articles of diet.

The majority of pellagrins personally seen, belonged to families with small incomes, and their general environment and living conditions were much below even a moderate standard. Cases were seen, however, among the well-to-do, who had developed the disease under conditions and living environment which apparently were above criticism.

### BUFFALO MEDICAL JOURNAL.

(May, 1913, lxviii, No. 10.)

Abstracted by CHARLES GOOSMAN, M.D.

#### A MUCH NEGLECTED BRANCH OF DERMATOLOGY. W. W. QUINTON, p. 567.

Quinton believes the general practitioner is responsible for the continued existence of "Beauty Doctors," by treating too lightly the cases of facial blemishes.

### CANADIAN PRACTITIONER AND REVIEW.

(May, 1913, xxxviii, No. 5.)

Abstracted by CHARLES GOOSMAN, M.D.

#### RADIUM IN DERMATOLOGY. W. H. B. AIKENS AND F. C. HARRISON, p. 255.

Aikens and Harrison discuss in detail the results obtained with radium. For its antipruritic effect it is very useful in pruritus ani et vulvæ and in psoriasis associated with itching. Recurrence is not prevented in psoriasis. In chronic, dry eczema it is more useful than in weeping forms.

In lupus erythematosus and lupus vulgaris large doses are indicated to produce a certain amount of destruction. The healthy area is protected with screens. Definite and permanent cures cannot always be realized.

Acne rosacea and rhinophyma have been benefited, and in the majority the results are fairly permanent. Acne vulgaris, and especially acne keloid are improved. Of granulosis rubra nasi, two cases have been reported with complete cure.

Tinea tonsurans, staphylogenic sycosis, and hypertrichosis are all favorably influenced. In angioma, papilloma, keloid and senile keratoses good results are obtained, while in rodent ulcers (when confined to the soft parts) one can almost guarantee results. In fungating epithelioma, about 10% do not yield to radium, though these are mostly advanced cases.

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### CLEVELAND MEDICAL JOURNAL.

(April, 1913, xii, No. 4.)

Abstracted by CHARLES GOOSMAN, M.D.

#### RECENT ADVANCES IN THE TREATMENT OF LUES. H. N. COLE. p. 249.

Cole condemns the use of mercury by mouth, advises inunctions in some eruptions, on account of the local effect; but intramuscular injections are his preference. Oleum cinereum is best and least painful of the insoluble preparations, but it should never be used for more than five weeks in succession, an interval of five or six weeks being allowed before repeating the injections. Sometimes he uses a soluble injection during this interval, preferably one containing hydrargyrum biniodide and sodium iodide,  $\frac{1}{2}$  2.0, in distilled water, 100.00. Most of the other soluble salts form an insoluble mercury albuminate in the tissues.

Neosalvarsan he uses with the mercury, in a recent case giving four intravenous doses in four weeks, the initial dose of neosalvarsan being 0.3; or larger, in the case of a primary lesion. The Wassermann reaction is used to control the treatment.

Potassium iodide may cause lesions to disappear rapidly in the tertiary stage, but it has absolutely no effect on the cause of these lesions, and should be given a secondary place as compared with mercury, or even should not be used.

#### INTRAVENOUS INJECTIONS ON CONCENTRATED SOLUTIONS OF NEOSALVARSAN. RAVAUT, p. 262.

Ravaut confirms the good results obtained in 420 cases by this method (as described above), and illustrates a little filtering device he uses.

#### THE CEREBRO-SPINAL FLUID IN SYPHILITIC AND PARASYPHILITIC CONDITIONS OF THE NERVOUS SYSTEM. ROGER, p. 305.

A general review of the chemical, cytological and serological findings. No new or personal research.

### AMERICAN JOURNAL OF UROLOGY.

(February, 1913, ix, No. 2.)

Abstracted by FAXTON E. GARDNER, M.D.

#### SHOULD THE TREATMENT OF SYPHILIS BE DIRECTED ACCORDING TO THE WASSERMANN REACTION? ARDREY, p. 90.

The determination of the reaction has practical value only in the latent stages of the disease. A negative reaction is of no importance. A positive reaction may serve as an indication for intensive treatment. Still it is impossible to view the test as a "director" of treatment.

(*Ibidem*, March, 1913, No. 4.)

#### THE PRIME IMPORTANCE OF THE LAWS OF HYGIENE IN SYPHILIS. BROcq, p. 183.

When the syphilitic infection has become constitutional, it should not be combated by too intensive mercurial or arsenical treatment. Hygiene plays as important a part as mercury and arsenic in the treatment of confirmed syphilis.

# THE JOURNAL OF CUTANEOUS DISEASES

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VOL. XXXI

DECEMBER, 1913

NO. 12

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## EDITORIAL.

### BIBLIOGRAPHIC STYLE.

ONLY those who have had editorial experience can fully appreciate the value of a carefully prepared manuscript, and especially is this true of the list of references. Many authors will devote months to scientific research, paying the closest attention to every detail, and will then send the editor a manuscript that shows evidence of haste and carelessness in its preparation. Particularly is this true of the bibliography. For some unknown reason reference lists are usually prepared without spaces between the lines and without margins at the sides. It is practically impossible to make necessary editorial changes in such a manuscript. In all bibliographies there should be a double space between each line and a wide margin at the top, bottom, and on each side of the sheet. In fact the entire article should be prepared in this manner.

Another factor of no little importance is the spelling of proper nouns—the names of authors who are quoted. An editor should be and as a rule is familiar with the names of many of the authors of dermatological literature, but it is too much to expect him to be able to correctly spell, or even to be able to ascertain the spelling, of the name of every contributor to the literature of our specialty. The misspelling of a man's name produces a bad impression, and on the part of the author is really inexcusable.

Still another point is consistency. In one reference, for instance, the year is placed before the volume, while in the next item this plan is reversed. Or, in one reference the initials are placed before the author's name, while in the next reference the initials follow the name. Abbreviations at times are so confusing as to preclude the possibility of knowing what is meant. At other times the abbreviations are inconsistent.

On account of these avoidable faults, the staff of THE JOURNAL has worked laboriously for 16 hours in the editorial preparation of a single bibliography.

In order to avoid loss of valuable time and to make editorial work a pleasure instead of a burden we offer the following suggestions:

All manuscripts, including the bibliography, case reports, etc., should be typewritten and there should be a double space between the lines and a wide margin at the top, bottom and at both sides of the sheet.

Abbreviations should never be employed except in conformation with a definite system. Consistency in spelling, punctuation, paragraphing, indentations, headings, sub-headings, etc., should be maintained throughout.

In the bibliography a reference should begin with the author's name. This is to be followed by the initials, the title of the article and, finally, the name of the journal, with the year, volume, number and page, or the year, month and page in the order given.

In the case of a reference taken from a journal we would advise the following style:

PLACE, FRANK. Bibliographic Style in  
Medical Literature, *Med.*  
*Rev.*, Jan. 25, 1913,  
lxxxiii, No. 4, p. 156.

In quoting books it is advisable but not necessary to add the publisher's name:

DARIER, J. Précis de dermatologie, 1909, p. 102,  
*Masson & Cie*, Paris.

We refer our readers and contributors to an excellent article on this subject by Place (*loc. cit.*), and also to F. H. Hitchcock's "The Building of a Book," Grafton Press, New York. We also desire to state that THE JOURNAL adheres to the bibliographic style of the *Journal of the American Medical Association*. The American Medical Association has issued a pamphlet entitled "Bibliographic Style" which should be possessed by all medical writers.

In conclusion we make a plea for as much care in the preparation of the manuscript as is devoted to the scientific work.

ED.

## VACCINE THERAPY AS APPLIED TO CUTANEOUS DISEASES.\*

By T. CASPAR GILCHRIST, M.D., Baltimore.

Clinical Professor of Dermatology, Johns Hopkins University and Hospital.

WHEN I received the appointment as Reporter on Vaccine Therapy the work was devised and then divided among my assistants at the Johns Hopkins Hospital and myself, and this paper is the result.

## I. REMARKS ON THE USE OF VACCINES IN GENERAL.

In considering the question of vaccine therapy as applied to cutaneous diseases, it is necessary to refer to the broad principles of this mode of treatment and to make certain criticisms as to its administration to diseases in general. Vaccine therapy has now reached, especially in America, a stage which is somewhat comparable to that of X-ray therapy during the first two years of its application, when collectively it probably did more harm than good.

X-rays were applied during that time, promiscuously, unskillfully and when its dangerous effects were unknown. So it is with the treatment by vaccine therapy by the general practitioner at the present day. A great many people are now so afraid of X-rays that they will not have it applied under any circumstances whatever and vaccine therapy is rapidly approaching a similar condition. Wright and Adami both warned against the unscientific use of commercial vaccines, especially the mixed varieties, which are being used by hundreds if not by thousands of physicians in the United States. During the last Spring there have been published in the Journal of the American Medical Association a series of able articles on bacterial vaccine therapy: its indications and limitations; by a committee appointed by the Council on Pharmacy and Chemistry of the American Medical Association. I strongly advise every physician who treats patients by vaccines to read these articles carefully as he will then obtain a clear understanding of the whole subject. I am indebted to these papers for many of my general observations.

\* Read before the 17th International Congress of Medicine, Section on Dermatology, London, Eng., Aug. 6-12, 1913.

To continue the subject. The treatment with commercial mixed vaccines which sometimes contain even as many as nine or ten different kinds of organisms can be compared to the old "shotgun" prescription where it was hoped the remedy would hit something. Then again these commercial organisms are often obtained from a source one knows nothing about and from patients who may be suffering from other diseases so that serious results may follow. These commercial vaccines, single or mixed, have become extremely popular especially in the States, because it relieved the physician of many difficulties, e.g., the taking of cultures, which he may not have been taught when he was a student, the sending of cultures to distant laboratories and finally the urgent demand of patients for vaccine treatment, which has been immensely popularised by laudatory articles in monthly magazines, exaggerating the cure by this mode of treatment.

A very large number of physicians are in a very confused state about the whole subject. It requires very careful reading and a clear understanding to grasp all the new theories which have been advanced lately, especially on the subject of immunity. The way was paved some years ago by the use of serum therapy, especially the diphtheria antitoxin, and the general idea of physicians is that serum therapy and vaccine therapy are one and the same thing, whereas, as you well know, vaccine therapy gives immunity at first hand and serum therapy at second hand.

To meet the demand of vaccines, manufacturers who have exploited their wares tremendously have put on the market more and more varieties of mixed vaccines because so many physicians do not know what organisms they want; so that there are now mixed vaccines for all kinds of diseases, from which mixed cultures have been obtained and others which yielded negative results. In this way, exaggerated and ridiculous claims have been made following the use of mixed vaccines.

Theoretically, of course, the only true method is by the use of autogenous vaccines, whereby antibodies of precise specificity are aroused.

It has been shown that it is not necessary to find the opsonic index in the treatment of cutaneous diseases. In many instances, when the same species of organism is always obtained in certain diseases, then a stock vaccine can be used and it is found to be just as efficacious. When there is a mixed infection, as shown by culture, then it is permissible to use a mixed vaccine, but at present it is not known what part the secondary invader plays.



Even with the most skilled treatment by vaccine therapy cures do not always follow, as there are many failures.

In the treatment, not only has the virulence of the organism to be considered, but also the wide variations which exist among strains of a given species; and the dosage which varies according to the nature of the infection and individual susceptibility; and the interval which varies from five to ten days in chronic cases and a less interval in acute cases and finally when to stop the vaccine treatment.

When injecting vaccines, it is found that if the local reaction is pronounced, then excessive dosage is indicated. Another dictum is never to inoculate during the negative phase. The employment of serially increasing doses or to shorten inoculation intervals beginning with small doses and quickly going to larger amounts, is to be condemned.

It has been shown after considerable experience that no harm follows the careful and proper administration of vaccines.

It is only proper here to refer to the protection afforded successfully by antityphoid inoculations and although typhoid vaccine has no effect on the disease itself often good results follow in the post-typhoid affections.

This mode of protection might be used in some skin diseases, especially in those of a relapsing character.

## 2. PERSONAL EXPERIENCE WITH THE USE OF VACCINE IN CUTANEOUS DISEASES.

I have now had six years of considerable experience with vaccine therapy in the treatment of cutaneous diseases (about 800 cases), and I have had brilliant results, moderate successes and many failures, probably about in equal proportions. As one's experience grows larger, so one's statement becomes more conservative and considerable reliance must still be placed on other factors requisite in the general treatment of patients with skin affections.

Whenever an organism is obtained in pure culture from a case of skin disease, it is only proper that an autogenous vaccine should be used, especially if it is chronic or subacute: or, when the disease is acute, it does not yield to the usual modes of treatment and becomes dangerous.

It is still necessary to pay careful attention to diet, to the regular functions of the body, to other internal and external treatments, as well as the application of X-rays in some cases. Many infectious diseases of the skin do not require vaccines at all, as for example

impetigo contagiosa, where in the very large majority of the cases, local applications cause the lesions to disappear in a few days.

Vaccines, as you will all agree, are of the greatest value in chronic or subacute and especially relapsing staphylococcic affections of the skin, where there is in fact a lack of production of antibodies, due probably to the patient's mechanism for producing antibodies being worn out.

It is not my intention to go into detail about all the cases treated with vaccine but rather to make general observations concerning the results.

Stock vaccines may be tried at first, and if failure results, then autogenous vaccines are in order.

Vaccines are of great value in the treatment of relapsing furunculosis, sycosis vulgaris, pustular dermatitis and folliculitis, but even in these failures occur, probably due, as Wright says, to the weakening of the patient's power to produce antibodies; yet many times the results are brilliant.

In the various forms of eczema the results vary, and I should say that if a case of pustular, weeping or vesicular eczema is chronic, or relapses, and does not yield rapidly to the usual treatment, then vaccines should be tried. In 1899 I demonstrated that pure cultures of *Staphylococcus aureus* were frequently obtained from weeping eczemas, hence the benefit obtained with staphylococcic vaccines.

A case can be referred to here, as an example of eczema treated with vaccine. A young girl, 12 years old, with a very chronic papulo-vesicular type on the face and arms, accompanied by intense itching, was kept for a month under the usual local treatment and a certain amount of relief was obtained, but after the injection of 50 millions of a stock *Staphylococcus albus*, the improvement was most striking in 24 hours, and after three injections, once a week, the lesions practically disappeared. The local treatment was kept up just the same. This child had later a severe relapse, but on the face the type was all papular and on the arms papulo-vesicular and pustular. The latter lesions disappeared under vaccine therapy but the papular form remained and these were removed successfully by the application of a few mild X-ray treatments. Such results were often seen in many other cases of eczema. A negative phase would sometimes be shown by a crop of sterile vesicles appearing after an injection.

To convince myself whether the eczema cases were really benefited by the vaccine, I would follow the cases along carefully with the usual local treatment, then, if they were not soon relieved, the

vaccine would be used without altering the other treatment, and the improvement, if any, would be noted.

In a few instances, when the disease was symmetrically distributed, e.g., on both hands or both sides of the face, local treatment would be applied to only one side, but the resulting benefit would be the same to both sides. A number of cases were treated with the vaccine alone and one could definitely demonstrate the value of vaccine therapy. Some cases showed undoubted improvement a few days after the injection and the final disappearance of the eczema after five or six treatments, but a few required longer treatment.

Eczemas of the scaly and chronic indurated type were unaffected by vaccine therapy. Many cases of seborrhœic eczema, where the patients had had their eruptions for months or years, yielded most successfully to the albus vaccine, given in doses of 300 million or more, once a week. Some results were brilliant, after having applied the usual remedies, with only a moderate amount of success. In other cases again, the vaccine did not do any good at all.

My first assistant, Dr. Strobel, has had many successful results with vaccine, in treating cases of this disease. Numerous cases of sycosis vulgaris have been treated with vaccines, many with curative results, others again with only slight benefit.

About 50 cases of rosacea were treated, and the treatment of this disease also yielded some very marked results. Twenty-five were private patients and these I could follow much better and closer than the dispensary patients. The result of my observations on the treatment of this disease is that, as you may suppose, when the rosacea is complicated with acne pustules, the albus vaccine causes them to disappear, but in addition to this the flushing of the skin decreases. In some patients who had no pustules but only the hyperæmic flushing of the nose and cheeks, this would show marked decrease after each injection. At the same time it is necessary to see that the bowels are kept regular and that attention is given to proper diet.

In connection with acne vulgaris, a most troublesome disease of the face, and a disease which causes more serious worry to girls than any other cutaneous affection, vaccine therapy has proved to be of great value in the treatment.

The first vaccine to be made with *Bacillus acne* and used in the treatment of acne was applied in the Johns Hopkins Hospital Dispensary in 1907-8, and the beneficial results were referred to at the Meeting of the American Dermatological Association, in September, 1908.

As the result of my experience in the treatment of about 400 cases of acne, I find that a stock *Bacillus acnes* vaccine made in the hospital laboratory is as efficacious as an autogenous one.

Patients with severe acne have still to be treated with a great deal of painstaking care and one can not rely on vaccine therapy alone. It is still necessary to give careful attention to diet, to the regulation of the normal functions, to fresh air and exercise, to the expression of all comedones, since vaccines have no effect on comedones at all, and in many cases to the application of mild X-rays, and finally, to the use of suitable lotions or ointments.

Patients who have many superficial or even deep pustular lesions from which, on opening, creamy yellowish pus exudes, showing the invasion of the staphylococci, are much benefited at first with the *Staphylococcus albus* vaccine.

*Bacillus acnes* vaccine is now being used, to the exclusion of all other methods of treatment, indiscriminately and without much judgment by hundreds of physicians in the United States. Negative phases are produced and kept up by the physician until the patient refuses further treatment.

With reference to the doses, I began in 1907 with what are considered now very large doses, viz., 100 to 200 million, but since these doses produced temporary constitutional disturbances, the dose was lessened to 50 million. It was noted in some cases that the tolerance for vaccine seemed to diminish as the disease improved. It was found that smaller doses did more good. Fleming advised that 5 million be given at a dose, and Engman of St. Louis developed a technique which he thought was very efficacious. He recommended the first dose to be 3 million and then on the third day to remove all comedones, open all lesions, after which they are irritated by manipulation, and the patients to apply hot towels to the face for short intervals, twice a day. Small doses thus given at five to seven day intervals produced immunity in most of his cases.

My experience with Engman's method has not been successful, so that I have returned to the use of larger and fewer doses. The injection of two or three ten-day interval injections of *Bacillus acnes* vaccine acted most successfully in many of my relapsing cases. I would recommend the initial dose to be 10 to 20 million, then wait for the negative phase which occurs any day from the third to the eighth day and is shown by the appearance of new lesions, or the flaring-up of old ones, then, when these begin to go down and the whole aspect improves, give another injection, and so on for three or four injections, after which a period of rest should elapse. The

eruption usually clears up in four to six weeks. Now, when relapses occur, I give one or two injections, a week apart. Quite a number of private cases I have been able to follow for two or three years, as they seek my advice whenever a relapse takes place, and I give one injection of 20 to 50 millions and a slight negative phase is shown a few days later, by the appearance of two or three small nodules which disappear again without opening.

One fact I have noted and that is that the secondary invader, the albus, will sometimes become a more predominant factor in the causation of the pustules during the negative phase.

There is no doubt about the great value the *Bacillus acnes vaccine* has on the inveterate nodular type, where the *Bacillus acnes* exists in pure culture.

In a chronic case of pemphigus foliaceus described by my assistant, Dr. H. H. Hazen, in detail, he obtained a pure culture of *Bacillus pyocyaneus*. He demonstrated the causative relationship between the organism and the disease by reproducing typical lesions on the skin by local inoculations of the pure culture of *Bacillus pyocyaneus*. An autogenous vaccine was made and used on the patient without any benefit whatever.

Dr. Ormsby of Chicago has sent me the notes of a case of pemphigus vulgaris which was cured by the injection of an autogenous vaccine and the application of an ointment made up with autogenous organisms.

In the group of cutaneous diseases where the aetiology is unknown and where one is compelled to try new remedies in some distressing diseases of the skin that do not readily yield, or not at all, to known remedies, it seemed to me justifiable to try vaccine therapy, e.g., in dermatitis herpetiformis, relapsing erythema multiforme bullosum, chronic urticaria, etc.

Some cases of dermatitis herpetiformis which had not done well under other treatments have been strikingly benefited by vaccine therapy. In my last paper on the subject I referred to a private case—a lady who was becoming mentally unbalanced with the intolerable itching. The injection of *Staphylococcus albus vaccine* twice a week proved to be a great aid in the relief of this patient. She had had the disease for five years, but was almost rid of her trouble after six weeks' treatment, which consisted of strict attention to diet, vaccines and lotions, which lotions when used alone previously had done no good. I saw her again twelve months later and she had remained practically well, only very slight relapses occurring now and again.

In two cases of severe relapsing erythema multiforme bullosum, the results were strikingly demonstrated when the albus vaccine was used twice a week. I described in detail these two cases in my previous paper. One was a young married woman who had had severe attacks involving the mouth, face, legs, feet, hands and arms, almost continuously for six months. The only negative phase shown was one following a vaccine injection on one occasion, when about a dozen clear pinhead sized sterile vesicles appeared. This patient always knew when a severe relapse would come on by premonitory symptoms of intense general weakness. After keeping clear of any eruption for nearly 18 months, following my treatment, she suddenly had a relapse while in Canada and she telegraphed me for advice. She was given *Staphylococcus albus* vaccine, 300 million, and after another dose two days later, the attack was aborted. The patient, a woman of considerable intelligence, wrote that the first effect of the vaccine was to relieve the feeling of intense weakness in a few hours. She reported to me six months later and was quite well. One fact noted was that the coated tongue cleared up after the use of vaccines and not with stomachic tonics and laxatives which were given previously. The cleaning up of a coated tongue was also observed in the treatment of rosacea.

*Staphylococcus albus* vaccine was made use of in the treatment of some other dermatoses of unknown origin which had not yielded very successfully to the usual methods, and the results were not encouraging, although in one or two instances, benefit seemed to follow; e.g., chronic urticaria, pityriasis rosea, lichen planus, lupus erythematosus, purpura, parapsoriasis, dysidrosis, psoriasis.

### 3. ON THE USE OF AN AUTOGENOUS FILTRATE FROM A LIVING ORGANISM IN THE TREATMENT OF A CUTANEOUS DISEASE.

Three cases of blastomycetic dermatitis came to the Johns Hopkins Dispensary last summer and my assistant, Dr. Pels, undertook to treat these with a filtrate from a three months' old culture of blastomycetes.

This new therapeutical idea had been first used in Neisser's laboratory by Plato in connection with the treatment of ringworm of the scalp with the filtrate from a 3 months old culture of the ringworm fungus.

Two of the cases of blastomycosis were admitted into the Johns Hopkins Hospital and one came to the dispensary. After about one week's treatment of all three cases, it was found that the sup-

ply of vaccine was not enough for all the patients, so all efforts were concentrated on the treatment of the worst case, a white man who had a very extensive ulcerative lesion on the right leg, extending from the knee to about the ankle, on the outer and posterior surfaces.

Treatment was begun by Dr. Pels with small doses of the filtrate, 1 cc., and then gradually increasing doses were administered up to 10 cc., when a reaction was obtained. The filtrate was injected at first every two or three days; the temperature, pulse and other conditions being noted every two hours. Beneficial results began to be noted after about the third injection and were very marked; but after three weeks' stay in the hospital, the treatment had to be discontinued because the vaccine gave out, and the patient, who came from quite a distance, had to return home.

I might here remark that the opsonic index could not be taken in such a disease as blastomycosis because the organisms are usually larger than blood cells and they are found usually free in miliary abscesses in the tissues and phagocytosis only takes place in giant cells and sometimes in epithelial cells.

There was no doubt about the very striking beneficial results obtained with the use of the filtrate from the living blastomycetes. The cutaneous lesions lost all their clinical appearances of blastomycosis and took on that of healthy granulation tissue, and many of the smaller lesions were entirely healed. On microscopical examination, scrapings from the granulation surface still showed the presence of blastomycetes, showing that the fungus had not entirely disappeared.

In the dispensary case, a negro with two palm sized lesions and smaller patches scattered on the right shoulder and arm, the results seemed to be almost curative. I saw this patient a month later and his lesions seemed apparently to be healed, but there was some relapse owing to the fact that he had not received enough vaccine. The case which Dr. Pels treated so carefully and fully, returned six months later with a serious relapse and he had developed new lesions, one being a deep abscess, the size of the fist, and two deep sinuses on the front of the right thigh.

The filtrate treatment was again used, but although the large cutaneous lesion on the leg began to lose its blastomycotic appearance and take on that of healthy granulation tissue, yet the patient did not improve constitutionally. He had a very marked septic temperature which was found to be due to infection with *Staphylococcus aureus* and *albus*. Autogenous vaccines were made from these two

organisms and the patient was treated carefully but the results were not very beneficial. The patient was then turned over to the surgeons in order to have the sinuses on the thigh thoroughly cleaned out and so get rid of the source of the septic infection and then the filtrate will be tried again.

In criticising the treatment, it might be thought that the injection-intervals were too short, but no negative phase was noticed until the large dose of 10 cc. was reached but the continued high tide of immunity was kept up.

As the result of Dr. Pels' investigation, this mode of treatment for blastomycosis, a disease which is fairly prevalent in the United States and is frequently fatal, is worthy of a more extended trial. So far, vaccine made from killed blastomycetes had not produced any beneficial results. Soluble vaccine made according to Hirschfelder's method might also be tried.

#### 4. ON THE BACTERIOLOGICAL INVESTIGATION OF FÆCES FROM NORMAL AND ABNORMAL CASES, IN ORDER TO MAKE AND USE AN AUTOGENOUS VACCINE FROM A CAUSATIVE MICRO-ORGANISM, IF FOUND IN THE INTESTINE.

Intestinal intoxication has been given by many dermatologists as the causative agent in certain cutaneous diseases and that the intoxication may be due to a toxin ingested with the food; or to the abnormal breaking down of proteids by proteolytic bacteria; or by toxins actually produced by the bacteria themselves.

It was thought that, by making a careful bacteriological examination of stools of cases of extensive skin diseases, especially those belonging to the toxic erythemas, it might be possible to find a predominating organism or lack of normal bacteria which would have some causative relationship to the cutaneous lesion.

Dr. J. Scott Willock, assistant in the dermatological department of the Johns Hopkins Hospital, carried on this work with painstaking care during the last winter in the bacteriological laboratory of the Johns Hopkins Hospital under the guidance of Dr. Ford. He examined the stools from thirteen patients suffering from various dermatoses and also the stools from thirteen normal cases (medical students). He dealt only with ærobie cultures and the results he obtained are particularly interesting.

As Dr. Willock says, it was necessary first to establish, if possible, a normal standard by the examination of stools of normal individuals and then compare the findings from cases with skin diseases;



then one could tell if any particular organism or organisms were present in abnormal numbers or unusual organisms were present. His technique was as follows: the stool was collected directly into a small sterile can and within an hour, often less, cultures were taken. Two emulsions of different strengths were made in tubes of bouillon, i.e., one with three and one with one generous loopful of fæces. A series of plate cultures were then made by transferring loopfuls of emulsion. The plates were incubated and in 48 hours one of the plates would show from 25 to 300 colonies. On such a plate a typical area was selected and all the colonies in the area to the number of 25 were transferred to agar slants, so that in some cases all the colonies were transplanted and in others much less. As a result, 25 colonies were obtained which represented the proper ratio of the bacteria in the stool. These 25 agar transfers were allowed to grow 24 hours, then each of these was subcultured to agar slants, litmus milk, gelatine and to dextrose, lactose and saccharose broth. Each growth was also examined by a hanging drop and by stained smears with gentian violet and Gram's stain. The agar, milk and gelatine were examined on the first, second, fifth and tenth days. The sugars were discarded at the end of 24 hours if gas had formed and the gas was determined, and if no gas had formed, then they were examined for acid with litmus at the end of forty-eight hours.

Bacterial findings in normal stools revealed the fact that even an approximate standard for the flora from stools could not be made.

The *Bacillus coli* was by far the predominating organism in both normal and abnormal cases. It occurred in pure culture three times out of 26 cases, twice in the normal and once in an abnormal patient (a case of scleroderma), yet the *Bacillus coli* was absent in two normal individuals (not one colony being present among several thousand) and practically absent in one abnormal case.

With reference to the second most frequent organism, viz., streptococcus, the difference in number in normal and abnormal cases was not sufficiently striking to be of any practical value. Only one normal case showed more than 50% of streptococci as against three abnormal cases, two of which gave practically pure cultures of streptococci.

The average streptococcus content of normal cases was 10% as against 26% in abnormal cases. Of 121 colonies of streptococci, only 13 were surface colonies. Vaccines were made from the streptococci found in abnormal cases. One patient did not return after one treatment and the other case of many years' standing showed definite improvement.

Dr. Willock's investigation has shown some unexpected variations from what is considered as normal. Nothing of a positive nature has demonstrated any definite aetiological relationship between the intestinal flora and cutaneous diseases but as was stated at first, only one class of bacteria, the aerobic, have been investigated and only a few dermatoses have been considered. As Dr. Willock says, further study of other cutaneous diseases and other classes of bacteria, e.g., the anaerobic and spore bearing bacteria may be more fruitful of positive results. Yet if one considers the results from a few of the cases of dermatoses, some striking points are noted, e.g., in a case of erythema multiforme, with an acute, intense and rather extensive eruption associated with a mild streptococcus septicæmia, the *Streptococcus faecalis* was practically absent; and the organism was present in very small numbers, about 4%, in another case of mild erythema multiforme, and also in cases of erythema nodosum, chronic urticaria factitia, two cases of extensive pityriasis rosea and an extensive case of purpura.

There is no doubt that this mode of investigation will lead to more definite results if carried out further, especially in those classes of cutaneous diseases which are associated with constitutional symptoms and have been thought to be due to so called intestinal auto-intoxication.

Some other work was carried out by Dr. H. W. Plaggmeyer in the dermatological department of the Johns Hopkins Hospital and although it was not quite apropos of this subject, yet the investigation was begun with some cases which had received vaccine therapy and some which had not. The work was extended and the results proved to be so interesting that you will, I feel sure, excuse me for referring to them for a few minutes.

##### 5. TO FIND OUT IF THERE WAS ANY RELATIONSHIP BETWEEN THE TUBULAR FUNCTIONAL ACTIVITY OF THE KIDNEYS AND VARIOUS DERMATOSES, ETC.

In an attempt to ascertain the relationship of the various types of skin lesions to the tubular functional activity of the kidneys, a series of 40 cases was injected with phenolsulphonaphthalein and the results are briefly as follows:

The series embraced cases of acute and chronic type, both local and universal in distribution and varied from widely distributed acne to universal psoriasis, universal eczema, pityriasis rosea, and dermatitis exfoliativa. The duration of the diseases varied from ten

days to two years. In all these cases an attempt was made to secure subjects otherwise normal, with normal urinary output, both as to quantity, frequency and chemical content. In no case was the phthalein reading less than 40 nor above 62% for a period of one hour and ten minutes following injection. In other words, the colorimetric estimation of the tubular functional activity was well within range of normal as to upper and lower limits. Two cases of macular lues were examined and in both of these the reading was below 35, but it is questionable whether, with this paucity of material, we can draw any conclusion as to lues without further investigation.

This integrity of the tubular activity of the kidney in the presence of widespread integumentary involvement led to the idea of studying the relationship of the constituent parts of the urine and sweat. It was attempted to pass coloring matter through the latter, and to this end indigo carmine, phenolsulphonephthalein, phenolphthalein, methylene blue, and rose aniline were injected but were not recovered in the sweat by any known test. Phloridzin and salicylic acid were not recovered, but hexamethylene amin was recovered in the only two cases examined, in a proportion of 1 to 30,000 according to Heyner's test. It might be of interest to state that although the sweat was acid in both cases by titration method with sodium hydroxid, the hexamethylene amin was recovered as such and was not split into its constituent parts. From this point, the work was centered chiefly on the chemical study of the normal sweat, which was obtained by placing the patient in a rubber bag, within a rubber air chamber, into the side and top of which was projected the neck of a hot-air furnace, the mouth of the furnace being protected by a fan-shaped cuff of cardboard, to prevent a concentration of heat at any one place. The temperature of the patient was taken before entering the bath, at the time of appearance of perceptible sweat and at the completion of the seance, with an idea of ascertaining what increase, if any, in the nitrogenous content, took place at points below and above 100 degrees F. Also the temperature was taken inside the bag containing the patient, to see if at any time it rose high enough to impair the readings of diastase values. All patients were absolutely normal, had not indulged in any exercise, were on a diet not rich in proteids, and were not neurotic in temperament. The sweat was immediately filtered and examined for cell content, and in all cases found negative in this regard.

Without going into the minutiae of our findings in regard to the total nitrogen, urea nitrogen, ammonia nitrogen in the blood and

sweat, and the diastase and uric acid values as found in the sweat, it will suffice to say at present that we have concluded from our work that the skin cannot act vicariously with the kidneys, either in health or disease. The figures which have led us to this viewpoint are conclusive and will be published in the near future, with full description of the methods and technique employed.

#### 6. ON THE RESULTS OBTAINED FROM THE APPLICATION OF OINTMENTS MADE UP WITH VARIOUS MICROÖRGANISMS TO DIFFERENT CUTANEOUS DISEASES.

It was thought that since tuberculin ointment had been used with some success in the treatment of lupus vulgaris, that the same principle might be carried out in connection with other organisms, e.g., *Staphylococcus albus*, *Staphylococcus aureus*, *Bacillus acnes*, *Tinea trichophyton*, etc.

In order to make experiments, it was found that such large quantities of organisms were requisite to make up a reasonable amount of ointment, e.g., 50 two-ounce jars of each, that stock cultures were employed. The organisms were thoroughly mixed up with cold cream as a base, in 10% strengths. So we had *Staphylococcus albus* and *aureus* suspension ointments and they were applied to various cutaneous diseases, especially those which were directly due to one or other of these organisms or where the *aureus* or *albus* were secondary invaders, e.g., staphylococcic dermatitis, folliculitis, sycosis vulgaris, various forms of eczema, pustular acne and pruritus ani.

Our time began to get so limited and we had considerable difficulty in obtaining material and getting started, that we did not try the ointments on as many cases as we should have liked.

The results of our experiments in weeping, papular and pustular eczemas on various parts of the legs, arms and face were not at all good. The itching, when present, was not relieved, and in some cases the lesions were made worse, whereas in two cases of eczema round the anus and in cases of pruritus ani accompanied by fissures, the benefit was quite striking. One patient was a prominent physician who had had recurring pruritus ani with fissures for almost five years and had used all kinds of remedies and had been under my care for two years. The *Staphylococcus albus* ointment

NOTE. No anaphylactic shock was obtained in guinea pigs from 10 cc. injections of normal sweat and sweat obtained from a generalized pityriasis rosea. Further examinations on the toxicity of sweat are in progress, as also are experiments on the transmissibility of alizarin Blue S.

gave him marked relief within two days, and during the last five weeks there has been no itching whatever and no fissures of any kind. He declares it is the "best stuff he had ever applied." Another physician came to me with severe eczema round the anus, along the perineum and on the scrotum, the duration of which was two years. A great variety of remedies had been applied, some beneficial, but none curative. The *Staphylococcus albus* ointment was used by him and the relief was very rapid, and the lesion healed in a week. The ointment was continued for six weeks, and during that time no relapse occurred, and the cure remained complete. As a contrast, the weeping eczema on the scrotum did not do so well, and the treatment had to be changed. Another private patient had mild itching seborrhœic eczema round the anus, and it disappeared under the use of the *Staphylococcus albus* ointment. He had had his trouble off and on for years.

On account of the success in these few cases, I can recommend the trial of this remedy for pruritus ani, especially with eczema round the anus. Further experience may show its application to be a failure in many cases.

A few cases of sycosis vulgaris were much benefited; in one case, where the lesions did not heal up with the use of white precipitate ointment, they disappeared with the use of *Staphylococcus aureus* ointment.

In a case of extensive seborrhœic eczema of the scalp, face, ears, neck, upper part of chest, breasts and shoulders, in a woman who had relapsing attacks for four years, the usual remedies had been applied and the case was about 75% better, but still there was diffuse blotchy redness accompanied with slight branny scaling, and it was thought that the *Staphylococcus albus* ointment might help the condition. The skin began to assume a much whiter and less scaly appearance in twenty-four hours, and the patient was very much pleased with the new ointment. After a week's treatment, the *Bacillus acnes* ointment was applied for two days, but this caused the affected area to become much redder, and weeping reappeared under the breasts. There was a distinct reaction with the *Bacillus acnes* ointment, a kind of negative phase was produced. The patient asked for the *albus* ointment, and again great benefit ensued. After a few days, a mild sulphur ointment, made up with a cold cream base, which had been used with great relief before the use of *albus* ointment, was applied again, but it was not nearly so beneficial as the *albus* ointment. The patient is getting quite well under this last treatment.

Bacillus acnes ointment was used on quite a number of cases (15) of acne in various stages of the disease. Generally speaking, the results noted were a striking decrease in the greasy condition of the skin and an apparent stoppage of the formation of comedones after their removal. The effect on acne nodules and acne pustules was not very marked. In some cases there was a distinct reaction, the skin becoming erythematous on the second or third days, in others there was no reaction. When there was a reaction, the small acne pustules kept relapsing, but the nodules improved. In five cases, at least, there was marked benefit. Bacillus acnes ointment was also tried in some cases of seborrhœa sicca capitis, and it was followed in two cases with very good results, as it apparently stopped the formation of dandruff two weeks after washing, in cases where it always relapsed in a few days after washing. It is worth a further trial.

My friend Ormsby, of Chicago, and his assistant, Dr. McClellan, were kind enough to offer their help in the use of these ointments, and his results I will also mention. He had the ointments used in 20 cases, and he writes that the acne suspension ointments have seemed to give the most definite results. The good effects may be open to criticism, he writes, because all the cases had received previous treatment of some sort, yet during the time this new remedy was used, there were no complicating factors. He also noted that a slight erythema appeared on the second or third day, which was not traceable to the cold cream alone. The treatment of eczema cases, especially the weeping variety, was disappointing. In one case, however, where a man had a weeping and pustular lesion on the legs and both hands, the use of the Staphylococcus albus ointment on one hand was superior in its results to the other modes of treatment, so that the albus ointment was applied to the other lesions, with curative effects in two to three weeks. In another case of pustular folliculitis of the face and scalp the Staphylococcus albus ointment was tried, with curative results in a week. In a third case of generalized staphylococcia of five years' duration, where there was a relapse, the Staphylococcus albus ointment did no good. Other cases of seborrhœic eczema, sycosis and furunculosis, were treated with varying results.

Experience with the use of ointments made up with autogenous organisms or stock, if it is made up in the laboratory of one's hospital, is well worthy of a trial, especially with the Bacillus acnes ointment in acne and in seborrhœa of the scalp and the albus and aureus ointments in localized infections, either primary or secondary.

An ointment was made up with the ringworm fungus two weeks before I left, but no cases appeared in the clinic, so we could not try it. Blastomycetes could also be made up in this way, and we intend to have it applied in the next case. It appears as if some form of localized immunity was produced by the application of these ointments, which would explain the reaction (negative phase) in some cases.

#### SUMMARY.

1. In vaccine therapy, as applied to cutaneous diseases, it is necessary to have an intimate knowledge of bacteriology and immunology.

2. Autogenous vaccines are preferable, but are not absolutely necessary in many cases, but the stock vaccines should be made in nearby laboratories, by experts, from cultures obtained from typical lesions.

3. The treatment of cases by commercial mixed vaccines should be stopped.

4. The results of treatment of cutaneous diseases by vaccines have not been as hopeful as had been expected, yet it is a very valuable aid in the treatment of many diseases, especially the staphylococci forms and acne, in which the causes are known, and even in some, e.g., the various forms of eczema, where only the secondary invader is known.

5. In trying to find the aetiology of certain dermatoses belonging to the toxic erythema group, by the bacteriological investigation of the faeces, and, if found, to make vaccines, has so far not been very successful; but only the aerobic organisms were investigated by Dr. Willock, and more fruitful results may be attained by investigating the anaerobic forms.

Yet undoubtedly some interesting findings are recorded.

6. Ointments made up with various skin organisms and applied to different skin diseases has opened up a field of treatment that may yield some interesting and beneficial results. Some success has followed our experiments, so much so that this new idea is well worthy of a further trial. It appears as if a localized immunity was produced by the application of such ointments.

7. The use of a filtrate from living organisms was tried with some success by Dr. Pels, in three cases of blastomycosis. Filtrates from the staphylococci were also used in staphylococci affections, but not with beneficial results.

8. The new method of treating dead organisms so as to obtain a

soluble vaccine, by Hirschfelder of San Francisco, has led to some striking results; and although in my experience the effects were not so brilliant, yet more experience ought to be obtained with this method.

9. Dr. Plaggmeyer's results in his investigations were very interesting, since he showed that there was no relationship between the tubular functional activity of the kidneys and various types of skin lesions, in 40 cases. He also demonstrated that the skin cannot act vicariously with the kidneys in health or disease.

I wish to thank Parke, Davis & Co., of Detroit, U. S. A., for making up the ointments for me for experimental purposes.

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## STUDIES IN THE METABOLISM OF DERMATITIS HERPETIFORMIS AND PRURIGO: THEIR RELATION TO ANAPHYLAXIS.\*

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**I**N a previous paper by Dr. James C. Johnston and the writer, the result of a study of the urine in a number of inflammatory dermatoses, particularly the erythemas and parakeratoses, was presented. This study demonstrated a distinct connection between disordered metabolism and an acute outbreak of certain of these dermatoses, notably prurigo and dermatitis herpetiformis. The disorder consisted in a disturbance of the intermediary protein metabolism as evidenced by a decided drop, both absolute and relative, in the quantity of nitrogen excreted in the form of urea and a corresponding rise in the rest-nitrogen. It would seem advisable to present, first, in order that there may be a standard for comparison with disease, a consideration of the nitrogen partition of normal metabolism.

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.



## THE NITROGEN PARTITION OF NORMAL METABOLISM.

The following table is compiled from Folin's figures based upon repeated examinations of the urine of healthy persons. Each of the percentages represents the results of urine examinations of ten individuals for the space of three days—that is, of thirty twenty-four-hour specimens.

Total nitrogen, grams	Urea N. Percent. T. N.	N H <sub>3</sub> N. Percent. T. N.	Uric acid N. Percent. T. N.	Kreatinin N. Percent. T. N.	Rest N. Percent. T. N.
3	63.6	12.1	3.0	15.5	8.7
7	78.6	5.5	2.3	8.4	6.6
11	83.0	3.3	1.3	4.6	7.7
15	87.0	3.3	1.2	4.1	4.7

The marked differences between the percentages in low and high total nitrogen output renders it necessary to keep the table in mind in order to interpret nitrogen ratios in disease. The divergence is probably due to the close approximation to constancy of total amount for the individual excreted in health of all the constituents except urea. The importance of these figures and a thorough understanding of them is illustrated by the following example: Ten per cent. of rest-nitrogen is high for a urine containing thirteen grams of nitrogen, while it would be hardly remarkable for three grams. Any wide variation from these standards may be regarded as evidence of disturbance worthy of attention.

Long and Gephart <sup>2</sup> have presented a series of complete analyses of the urine of a considerable number of men on an ordinary diet. The tests extended over a period of a month or more in each case and the diet was qualitatively the same for all, but quantitatively only nearly so. The striking feature was the general correspondence of the analyses for the different subjects and this shows the uniformity of the metabolic processes in all persons under the given conditions of observation.

Long and Gephart's figures correspond closely with those of Folin and prove that in healthy individuals the total amount of the various nitrogen bodies is very constant for a given total nitrogen output.

Normally, the rest-nitrogen consists chiefly of mono-amino-acids with traces of other substances. Its composition may, of course, be altered in disease. For example, a high rest-nitrogen is found

in the toxæmia of pregnancy. It has been shown, however, that the excretion of mono-amino-acids is normal in this condition and that the high rest-nitrogen consists chiefly of polypeptides or protein bodies which have undergone incomplete cleavage.

Frey,<sup>3</sup> also, has shown that, normally, the quantity of amino-N excreted in the twenty-four hours varies from 0.2 gm. to 0.5 gm. It varies slightly for the individual and but slightly from day to day. Furthermore, Frey has shown that the amino-N excretion is practically independent of the food. Carbohydrates and fats have no influence on its excretion and protein only in so far that the figures with a high protein diet are somewhat higher than with a low protein diet. In Frey's cases the figures never exceeded 0.5 gm., however. This independence of the amino-N excretion of the protein intake finds its expression in the inconstancy of the amino-N: total N ratio.

#### METHODS EMPLOYED.

Kjeldahl's was the method used for the determination of total nitrogen, Folin's for urea, ammonia, uric acid and kreatinin. Walker-Hall's purinometer was used in the determination of the purin bodies.

The specimens consisted, in every instance, of the total urine passed in twenty-four hours. In order to prevent decomposition, chloroform was added to the first portion passed and the bottle was shaken with each succeeding addition.

In one of the cases previously reported, the quantity of food taken was exactly determined by weight, for months at a time. In the others, the patients were kept on an average normal diet and directed to consume as nearly as possible, the same amounts of the some foods from day to day. The total urinary nitrogen varies with the weight of the individual, his habits and the amount of protein intake. Reliance, however, can be placed solely on variations in the relative proportions of nitrogen constituents for a given total. The work of Folin and Long and Gephart, already quoted, prove that in healthy individuals the total amount of the various nitrogen bodies in the urine is very constant for a given total nitrogen output. It would seem, therefore, that, even though the protein intake is not absolutely determined, all important errors are eliminated by comparison of the ratios obtained with those of a normal person for the same total output. This renders the study of such cases more feasible from a clinical standpoint. Too fine distinc-

tions must not, of course, be made; as might be allowable in an exact metabolic study and a urine can only be stamped as presenting evidence of disordered metabolism when the variations in the proportions of the various constituents is wide enough to be readily recognized as departures from the standard.

In this paper is presented a more detailed and strictly controlled study of another case of dermatitis herpetiformis and here again the same disorder of metabolism is noted.

### CASE REPORT.

**PATIENT.**—J. R. Male, 16 years of age. First came under observation on April 17, 1909.

**FAMILY HISTORY.**—Negative.

**PAST HISTORY.**—He has had scarlet fever, measles and tonsillitis. He does not use tobacco nor alcohol.

**HISTORY OF PRESENT ILLNESS.**—He has been subject to recurring attacks of dermatitis herpetiformis for five years, particularly in the summer time. The eruption comes out in successive crops and consists sometimes only of erythema, sometimes of grouped vesicles on an erythematous base. The eruption is intensely itchy and tends to appear particularly over the extensor surfaces of the arms and forearms, and over the shoulder and sacrum. The present attack began three months ago, but for the past three weeks there has been a distinct improvement so that now the patient is not bothered very much.

**PRESENT CONDITION.**—The patient is a well-nourished and well-developed boy. The mucous membranes are of good color, the tongue is coated, and the breath is foul.

The heart, lungs, abdomen, liver, spleen and arteries are normal.

The skin shows a scanty erythematous eruption; there is no vesiculation. There is considerable pigmentation on the extensor surfaces of arms and forearms and over the shoulders and sacrum, as a result of an earlier eruption.

**BLOOD EXAMINATION.**—Hæmoglobin, 80%; red blood cells, 4,968,000; white blood cells, 16,000. Differential count of 300 white blood cells resulted as follows: polymorphonuclears, 50.3%; lymphocytes, 25.6%; large mononuclears, 11.6%; transitionals, 9.0%; eosinophiles, 2.6%; mast cells, 0.6%; myelocytes, none.

Urine examinations made April 19th and 22nd, revealed no abnormality (see table).

The patient remained practically free from any eruption till May 6, 1909, when he entered the hospital for closer observation on a controlled diet. He remained in the hospital until June 1, 1909, and was free from eruption during the entire time. There was no disturbance of the gastro-intestinal tract under any variation of the diet. The patient was not confined to bed, but did medium work around the ward. He was purposely put on a high fat, high carbohydrate and high protein diet in successive periods, to see if any of these *per se* would precipitate an acute attack.

## FOOD ALLOWANCE IN TWENTY-FOUR HOURS.

	First period May 7-18, 12 days	Second period May 19-23, 5 days	Third period May 27-31, 5 days
Eggs .....	5	2	2
Milk .....	960 cc.	480 cc.	480 cc.
Lactose .....	16 grams	250 grams	none
Oatmeal .....	900 "	900 "	900 grams
Bread .....	90 "	180 "	180 "
Butter .....	20 "	20 "	20 "
Rice .....	480 "	480 "	480 "
Potatoes .....	0 "	240 "	240 "
Soda crackers .....	0 "	26 "	26 "
Minced lean beef .....	0 "	0 "	500 "

In the next table the food value of the three periods is represented in terms of protein, carbohydrate, fat and calories and compared with Voit's standard dietary for a person of the same weight, namely 50 kilograms. The nitrogen content of the minced lean beef was determined each day, by Kjeldahl's method. The day's allowance of 500 grams was prepared at one time and 1 gram of this was taken for analysis.

The beef eaten on each of the five days was found to be very uniform, one gram always yielding .04 gm. of nitrogen. The daily allowance of 500 gm. therefore represented 20 gm. of nitrogen, or 125 gm. of proteid.

The composition of the other articles of food was estimated from Atwater's tables. In the heat value of the food, Rubner's standard calorimetric values were used.

	First period	Second period	Third period	Voit's standard dietary for man of 50 kilograms
Proteids .....	105.5 gm.	81.06 gm.	206.0 gm.	85 gm.
Fats .....	87.3 "	54.96 "	9246.0 "	40 "
Carbohydrates ..	323.8 "	614.00 "	391.0 "	355 "
Calories .....	2421.0 "	3387.70 "	3319.8 "	2182 "

## FÆCES.

With the first and last meals of each period, two teaspoonfuls of charcoal were given. The fæces for whole or part of a period was then collected, beginning with the first black stool and ending with the second, corresponding with the first and last doses of charcoal. It was possible in this way, to separate the fæces of one

dietary period from that of another. The faeces for each period were subsequently dried carefully by heat and reduced to powder. The estimation of the fat, carbohydrate and protein revealed nothing of importance and are, therefore, not recorded. The absorption of all three food-stuffs was good.

#### URINE.

For the sake of convenience, all the urinary examinations made in this case are grouped in one table. Daily examinations of the urine were made during the patient's stay in the hospital and for one week subsequently. Further daily examinations of the urine were made during and subsequent to several acute attacks of dermatitis herpetiformis.

The patient remained entirely free from the eruption during his stay in the hospital and a study of the table reveals no abnormality in the nitrogen partition. This shows that under the given conditions, the patient could digest and assimilate quantities of fats, carbohydrates and protein, far above the normal without any disturbance in his metabolism. After the patient left the hospital, he was put on an average normal diet for his weight and was directed to eat as nearly as possible, the same amounts of the same foods from day to day. A few months after leaving the hospital, outbreaks of dermatitis herpetiformis again appeared and in the urinary chart will be found the result of the examination of the urine during and subsequent to three distinct attacks. We find here again, evidence of disturbed protein metabolism. As a result of a close study of all our records given in this and the previous article, we would depict the disturbance of metabolism in a marked typical case of either dermatitis herpetiformis or prurigo, as follows: A few days prior to the appearance of the eruption, in what may be termed the prodromal period, the first change noticed is an increased excretion of rest-nitrogen, both relative and absolute and a corresponding decrease in the urea-nitrogen. In this prodromal period we frequently get marked symptoms of a toxic condition, namely, lassitude, headache, anorexia and joint pains. After the eruption appears and conditions grow worse, we find a progressive decrease in the quantity of urine and in the total nitrogen excreted and a lowered excretion of rest-nitrogen until, at the height of the attack, we have a scanty, concentrated urine, a trace of albumin, low total nitrogen excretion and the nitrogen partition approaching more normal figures.

Date.	Vol. c.c.	Sp. Gr.	T.N. Grams.	Urea—N. Grams % T.N.	NH <sub>3</sub> —N. Grams % T.N.	Purin—N. Grams % T.N.	Kreatinin—N. Grams % T.N.	Rest—N. Grams % T.N.
1909								
Apr. 19. ....	850	1024	12.1	10.04	0.50	0.15	0.65	0.7
			12.1	83.0	4.2	1.3	5.4	5.8
Apr. 22. ....	780	1026	11.3	9.05	0.57	1.3	0.76	0.68
			11.3	80.1	5.1	1.6	6.8	6.1
May 8. ....	2160	1015	17.7	15.26	0.55	1.6	0.76	0.85
			17.7	85.9	3.1	1.6	4.3	4.8
May 9. ....	2250	1013	16.6	13.96	0.81	1.8	0.68	0.81
			16.6	84.1	4.9	1.8	4.1	4.9
May 10. ....	1980	1023	12.48	10.59	0.63	1.0	0.62	0.46
			12.48	84.9	5.1	1.0	4.9	3.6
May 11. ....	2000	1015	17.08	14.15	1.05	0.26	0.73	0.81
			17.08	82.7	6.2	1.5	4.2	4.7
May 12. ....	2220	1015	17.09	13.32	1.12	0.25	0.72	0.62
			17.09	83.8	6.6	1.5	4.9	3.6
May 17. ....	1440	1019	14.5	12.12	0.42	0.15	0.52	0.82
			14.5	85.1	2.8	1.1	4.2	5.6
May 18. ....	2340	1015	17.29	13.8	0.91	0.22	0.61	0.69
			17.29	85.6	5.3	1.3	3.0	4.9
May 19. ....	2330	1013	16.4	14.16	0.9	1.3	0.74	0.22
			16.4	86.4	5.5	2.1	4.4	1.4
May 20. ....	1500	1017	13.2	11.33	0.7	1.7	0.65	0.31
			13.2	86.9	5.3	1.3	4.9	2.3
May 21. ....	1940	1014	12.49	10.1	0.73	1.3	0.66	0.66
			12.49	80.9	5.9	2.1	3.5	3.3
May 22. ....	1720	1019	11.3	8.91	0.54	0.29	0.71	0.8
			11.3	78.9	4.8	2.6	6.3	7.1
May 23. ....	1480	1017	10.48	8.66	0.63	0.19	0.64	0.29
			10.48	82.7	6.1	1.9	6.2	2.8
May 24. ....	1340	1017	9.9	8.24	0.55	0.14	0.66	0.25
			9.9	83.3	5.6	1.5	6.7	2.6
May 25. ....	2160	1013	11.0	9.11	0.47	0.33	0.69	0.34
			11.0	82.9	4.3	3.0	6.3	3.1
May 26. ....	1800	1016	14.46	12.33	0.5	0.27	0.75	0.56

Slight cold, fever lasting two days.



Date.	Vol. c.c.	Sp. Gr.	T. N. Grams.	Urea—N. Grams % T. N.	N.H <sub>3</sub> —N. Grams % T. N.	Purin—N. Grams % T. N.	Kreatinin—N. Grams % T. N.	Rest—N. Grams % T. N.	
Jan. 11....	1260	1025	14.2	81.1 83.6	4.1 2.0	1.9 2.3	3.1 3.1	9.5 8.8	
1910									
Jan. 12....	1080	1023	11.6	9.62 82.9	0.31 2.7	0.24 2.1	0.39 2.1	0.99 8.6	
Jan. 13....	965	1029	13.2	10.19 77.2	0.38 2.9	0.23 1.8	0.42 2.2	1.94 14.7	
Jan. 14....	1165	1029	14.0	16.54 72.0	0.54 3.9	0.3 2.2	0.4 2.9	2.61 18.7	
Jan. 16....	820	1020	6.19	4.98 80.6	0.25 4.2	0.16 2.7	0.32 6.7	0.35 5.7	
Jan. 17....	840	1028	8.0	8.7 83.7	0.25 3.2	0.16 2.7	0.38 4.7	0.38 4.2	
Apr. 2....	1370	1020	12.6	8.83 70.1	0.52 4.2	0.27 2.2	0.47 3.8	2.44 13.4	Rash first appeared Mar. 30. Very profuse erythematous-vesicular eruption present on Apr. 2.
Apr. 4....	1180	1018	9.4	6.69 71.2	0.29 3.1	0.25 2.7	0.35 3.8	1.78 13.0	Started Fowler's sol. m. x. t.i.d., April 3.
Apr. 5....	870	1027	15.6	11.71 75.1	0.48 3.1	0.39 2.5	0.53 2.5	2.44 15.7	
Apr. 6....	785	1030	10.37	8.49 81.9	0.24 2.4	0.15 1.5	0.29 2.9	1.14 11.0	April 7—Improvement very rapid since tak- ing ars. Eruption dried up now—very lit- tle itch.
Apr. 8....	1100	1016	10.07	8.27 82.2	0.25 2.5	0.16 1.6	0.37 3.7	0.98 9.8	
Apr. 10....	1850	1023	10.1	8.5 84.3	0.38 3.8	0.13 1.3	0.31 3.1	0.72 7.2	
Apr. 12....	1210	1017	10.6	9.4 88.7	0.23 2.2	0.19 1.8	0.32 3.1	0.44 4.2	
Apr. 15....	1460	1018	11.44	9.97 87.2	0.28 2.4	0.16 1.5	0.34 2.9	0.68 6.0	
June 16...	950	1030	11.6	10.18 87.3	0.52 4.5	0.19 1.7	0.39 3.4	0.29 2.5	Free from eruption since last note.



As improvement takes place, these conditions are reversed—the urine becomes more abundant, the excretion of total nitrogen is increased and again we find a high rest-nitrogen with a low urea nitrogen. In mild attacks, the only striking feature may be the high rest-nitrogen throughout; the quantity of urine and the excretion of total nitrogen may not be materially diminished at any time.

The urinary findings at the height of a severe attack seemed to indicate an irritative action upon the kidneys by the nitrogen bodies composing the rest-nitrogen fraction, with a resulting retention of these bodies, particularly. Through the various detoxicating agencies of the organism, these bodies are probably converted into less irritating substances, so that associated with improvement in the general condition, we find an increased flow of urine, an increased elimination of nitrogen and, again, an abnormal nitrogen partition, as evidenced by a drop both absolute and relative in the quantity of nitrogen excreted in the form of urea and a corresponding rise in the rest-nitrogen. With continued improvement, the nitrogen partition also becomes normal. The composition of the so-called rest-nitrogen in the early stages of an acute attack of dermatitis herpetiformis and prurigo possibly differs from its composition in the later stages or period of subsidence. Further study and finer chemical methods are needed to elucidate this point. Urea is the form in which by far the greater part of the protein of the food is normally eliminated from the body. Any decrease in its excretion below the normal for the total nitrogen output, is an evidence of deficient desamination or, in other words, a partial inhibition of protein metabolism. The gradual return of the nitrogen partition to normal figures indicates that there has been a temporary inhibition of the intra-cellular mechanism by which the final proteolytic cleavage products are either utilized and built up into body material, or else desaminated and excreted as urea. This inhibition is probably due to the toxic condition seen in the early stages of an acute attack and it can be reasonably conceived that if this toxic condition becomes chronic, as is seen in severe cases of prurigo, this inhibition may, also, become more or less chronic. As a result, in such cases the food proteins are no longer properly utilized and built up into body albumin, and wasting and cachexia ensue.

A similar condition is seen, for example, in the cachexia of cancer. Here, even though the protein intake is abundant, there is a constant negative nitrogen balance—and gradual wasting takes place. The chronic toxic condition common to all these states, possibly causes a slight inhibition of the anabolic function or, other-

wise, of the intra-cellular mechanism by which the final proteolytic products are utilized.

There seems to be no change in the excretion of ammonia, uric acid, purin bodies or kreatinin. A trace of albumin is constantly noted during acute attacks; this is absent in the intervals. Glucose and the acetone bodies are never present. Indicanuria is constantly present in untreated cases and during the relapses. It is an indication of protein putrefaction.

What is the significance of these findings and can they be interpreted so as to throw some light on the ætiology of the two diseases in question?

In prurigo, the connection between high protein intake and outbreaks of the eruption was unmistakable. Several of the patients had learned by personal observation, that frequent meat eating increased the frequency and duration of the attacks. Furthermore, we have precipitated an acute outbreak several times in these patients by increasing the protein intake. In the case of dermatitis herpetiformis, here reported, we were unable to produce an acute outbreak by forced protein feeding, but in several patients we have succeeded in aborting acute attacks by the use of a vegetarian diet and vigorous eliminative measures. From our studies, therefore, we would conclude that the food protein plays an important rôle in the production of both prurigo and dermatitis herpetiformis.

According to Stelwagon, "the essential cause of prurigo, whether neurotic, toxæmic or parasitic, is not known; the neurotic predominates." The French school in particular, maintains that the disease has a neurotic base; that the pruritus is the essential element, the papules developing from the irritation of scratching. Others believe that a toxic cause operates, because of the urticaria at the beginning and the frequency of gastric and intestinal disturbances. Dermatitis herpetiformis is generally considered to be essentially a neurosis, as it so frequently develops after severe mental strain, nervous shock, menstrual irregularities, etc. Hyde says, "it is possible that the irritation of the nervous system may be due, in every case, to a toxæmia, but by many the disease is considered purely a neurosis."

I shall, later, point out the many features which dermatitis herpetiformis and prurigo, on the one hand, have in common with anaphylactic disease on the other and hope to show that a conception of the two diseases as anaphylactic phenomena will embrace both the neurotic and toxic element which seems to enter so largely

into their etiology. Before doing so, however, I wish to refer briefly to some well-established physiological facts and to some of the features of anaphylaxis in general, which it is necessary to have in mind in order to accept this explanation of the two diseases.

#### SECRETION OF GASTRIC AND INTESTINAL JUICES.\*

The normal gastric secretion is due to the coöperation of two factors: the *first* and *most important* is the *nervous secretion*, determined through the vagus nerves by stimulation of the mucous membrane of the mouth or by the arousing of appetite in the higher parts of the brain. This is the so-called "psychic juice" of Pawlow. Furthermore, the secretion of this psychic juice is easily affected by inhibitory impulses arising in the central nervous system as the result of either painful impressions or emotional states. The *second factor*, which provides for the continued secretion of gastric juice long after the mental effects of a meal have disappeared, is chemical and depends on the production in the pyloric mucous membrane of a specific substance or "hormone," which is absorbed into the blood and then excites the activity of the various secreting cells in the gastric glands.

The juice secreted in this second phase must vary according to the quantity of gastric hormone produced in the pyloric mucous membrane and, therefore, with the nature and amount of the substances produced in the preliminary digestion of the gastric contents by means of the psychic juice. Similarly, it is known that the nature and quantity of the pancreatic and intestinal juices depend upon the production of a specific hormone in the first part of the duodenum, through the action of the acid chyme poured into it from the stomach. The quantity of this hormone will again vary according to the nature and amount of the acid chyme. It is, therefore, evident that inhibitory impulses arising in the central nervous system affect not only the quantity and quality of the psychic juice, but also the quantity and quality of the other digestive juices. This would lead to imperfect digestion of the various food stuffs and particularly the proteins, as the proteins are the only food stuffs which undergo any digestion in the stomach. Furthermore, there are certain facts which seem to indicate an action of the central nervous system on the processes of intestinal secretion, not in the direction of augmentation, but in the direction of inhibition of se-

\* The following facts are taken, in many places verbatim, from Starling's "Principles of Human Physiology," 1912.

cretion. For the development of one of its most important properties, namely, that of proteolysis, the pancreatic juice is dependent on the coöperation of the intestinal juice or succus entericus. Taking all these facts into consideration, it is evident that the digestion of the proteins can be markedly inhibited by impulses arising in the central nervous system.

#### PHYSIOLOGY OF PROTEIN DIGESTION.

Under the influence of the gastric juice, the proteins of the food are resolved during their stay in the stomach into albumoses and peptones. In the small intestine the process of hydration is carried further, the trypsin of the pancreatic juice carrying the proteins through the stage of secondary albumoses and peptones and converting them into a mixture of amino-acids and a certain remainder of polypeptides, consisting of two or three of the amino-acids associated together, which do not undergo further disintegration under the action of the intestinal ferments. The final products give no biuret test—they have lost one of the characteristic features of the peptones.

The same end-products result from the action of the erepsin of the intestinal wall on the albumoses and peptones produced in gastric digestion. We may, therefore, regard the amino-acids as the form in which all the protein of the food is normally absorbed by the intestinal mucous membrane. The amino-acids are either built up in the intestinal wall into blood protein or, according to Folin, they are transported quickly by the blood, unchanged, directly to the muscles and tissues. Those amino-acids not needed for the building of body material, are broken down and the nitrogen converted into urea. The intra-cellular mechanism by which the amino-acids are finally utilized, is of the nature of a ferment action and involves both hydrolytic and oxidative processes.

#### EFFECT OF PEPTIC AND TRYPTIC DIGESTION ON THE SENSITIZING AND INTOXICATING PROPERTIES OF THE PROTEINS.

The primary split-products of the proteins, namely, albumoses and peptones, possess high sensitizing and intoxicating properties. The intermediary products of tryptic digestion, the secondary albumoses and peptones, also possess these properties, though to a lesser degree. Advanced tryptic digestion has been shown by Wells

to destroy both the sensitizing and intoxicating properties of the proteins, and this agrees with the experimental fact that the free amino-acids can neither sensitize nor intoxicate.

It is readily seen, therefore, that if tryptic digestion is inhibited from any cause, imperfectly split products of protein digestion may be absorbed by the intestinal mucosa with resulting sensitization and subsequent anaphylactic seizure, if the process is repeated after a definite intervening period.

#### SOME FEATURES OF ANAPHYLAXIS IN GENERAL AND OF ALIMENTARY ANAPHYLAXIS IN PARTICULAR.

The general conception at present of anaphylaxis is, that sensitization with proteins induces the formation of an antibody which has all the properties of an enzyme. Each antibody is specific to its antigen and when a reinjection of the protein takes place after a suitable intervening period, the union of antigen and antibody in coöperation with complement is believed to cause a splitting of the injected protein into exactly the products it would yield in intestinal digestion. The poisonous intermediary products which in intestinal digestion would normally undergo still further cleavage before entering the system, are liberated directly into the blood stream when the protein is administered parenterally. It is these intermediary chemical products which are supposed to be the real toxic agents in the production of the anaphylactic seizure. The action is regarded as one of protein digestion, first, because the toxic effect closely resembles that of the substances in Witte's peptone, *i.e.*, substances obtained in the course of protein splitting and, second, because evidence of actual protein splitting in the mixture of antigen and antiserum may be obtained by chemical means as well as by observations on their rotary power. This conception of the mechanism of anaphylaxis is not accepted by all. Dörr and Russ believe that the antibody in question is really a precipitin and that the anaphylactic toxine is in some manner split off from the corresponding precipitate through the agency of complement. Anderson suggested that the symptoms of anaphylaxis are due to disturbed metabolism and not direct poisoning, as Friedberger holds. Others consider that the reaction is distinctly cellular and not humoral. In fact, it is possible that the symptoms of anaphylaxis are due to toxic bodies arising from the splitting of the body albumins and not of the injected albumins. This conception makes it easier to understand why the symptoms of anaphylaxis are practically always

identical in the same species of animal in spite of the diversity of the antigens. The mechanism and site of production of the anaphylactic poison do not, however, intimately concern us in this discussion.

Idiosyncrasy to articles of food is explained by the absorption of a sufficient quantity of unmodified protein to react with antibodies already present, either congenitally or formed under similar previous conditions. Bruck's conclusive demonstration of the anaphylactic nature of idiosyncrasy to pork shows that probably all the food idiosyncrasies are of similar nature. In these conditions, stomach and bowel disturbances are common and so allow the passage of unaltered albumin which acts anaphylactically.

Idiosyncrasy to cow's milk, seen in some infants, is probably due to an antibody primarily present, or which has been developed from previous absorption of unchanged cow's milk during an intestinal upset. This idiosyncrasy frequently disappears in later life, probably due to lessened permeability of the intestinal wall. Schloss<sup>4</sup> reports the case of a boy in whom marked urticarial lesions were caused by ingestion of eggs, almonds and oatmeal. The idiosyncrasy to eggs and oatmeal was acquired, that to almonds appeared the first time this food was taken. Cutaneous inoculation of these food substances produced an urticarial wheal at the site of inoculation. The cutaneous reaction was produced only by the protein constituent of eggs, almonds and oatmeal. Some of the active proteins produced urticaria by mere contact with the unbroken skin. Guinea pigs were passively sensitized to ovomucoid (one of the active proteins from eggs) by intraperitoneal injection of the patient's serum. By feeding ovomucoid in gradually increasing doses, the patient became immune to eggs. At the same time, an immunity to oatmeal and an apparently decreased susceptibility to almonds occurred. This suggests the possibility either that, in the process of proteolysis some intermediary product occurs common to all, or many, of the food stuffs to which the organism reacts; or that chemically and biologically distinct proteins contain common reactive groups.

Several investigators have shown that animals can be sensitized by way of the alimentary canal, *e.g.*, Rosenau and Anderson, by feeding guinea pigs with large quantities of horse serum and horse meat; Bornstein using the lens of cattle and Wells using vegetable proteins.

Normally, no appreciable amount of toxic-split products of the proteins enters the circulation. They are detoxicated by reduction to mono- and free amino-acids. We can readily recognize, however,

that an overproduction and resulting invasion of the organism with these substances can do harm.

If alimentary anaphylaxis is possible, why are not more people anaphylactic? What other conditions are necessary for the absorption of foreign albumin from the intestine? Functional disturbance of the nervous system seems to be the cause. Eppinger and Hess have shown that people with increased vasomotor tone were especially easily sensitized and responded with local and general symptoms of anaphylaxis. Anaphylactic shock has symptoms of irritation of the autonomous nervous system and Bresredka and Steinhardt claim that the alien protein in the body of an active or passively sensitized animal is changed into a toxine which first attacks the cells of the central nervous system.

The use of such drugs as chloral, urethane and atropine, in preventing anaphylactic shock in animals, also indicates an involvement of the nervous system in this condition. In man, the symptoms referable to the nervous system are not usually prominent. The reason that the skin and nervous system are both attacked by the anaphylactic poison is probably due to the fact that they are both derived from the same embryological structure.

The points of chief importance to us in the present discussion are (1) that sensitization by way of the alimentary tract can be accomplished by overfeeding with protein food; (2) that mental and emotional impulses arising in the central nervous system have an inhibitory effect on the tryptic digestion of the proteins with resulting gastro-intestinal disturbance. Absorption of foreign albumin from the intestine takes place with resulting sensitization and anaphylactic shock when the process is repeated. The anaphylactic poison in turn attacks the nervous system, forming a vicious circle and we have here the basis established for the unstable nervous system and the neurotic element which enters so largely into both prurigo and dermatitis herpetiformis.

#### POINTS OF RESEMBLANCE BETWEEN DERMATITIS HERPETIFORMIS AND PRURIGO ON THE ONE HAND AND ANAPHYLACTIC SHOCK ON THE OTHER.

1. SKIN ERUPTIONS.—The eruption characteristic of anaphylactic shock in man is of the erythemato-urticarial type with intense pruritus. The eruption in dermatitis herpetiformis and prurigo conforms to this type. The irregularity of the attacks is due to the irregularity with which the causative factors become opera-

tive and their suddenness to the rapid invasion of the organism by the anaphylactic poison. The severity of the attack depends upon the amount of imperfectly digested protein absorbed from the intestinal tract. The periods of freedom from the disease are possibly due to the development of a state of anti-anaphylaxis where the patient is resistant instead of hypersensitive. This condition, however, is not permanent and after a varying period the hypersensitive stage again returns.

2. BLOOD AND TISSUE CHANGES.—One of the most constant and striking features of dermatitis herpetiformis is the presence of an eosinophilia—both local and general. Eosinophiles are found both in the corium and epidermis and are usually present in large numbers both in the vesicles and blebs. Schamberg,<sup>5</sup> in 24 cases, collected from the literature, found an average eosinophilia in the blood of 16.18 per cent. In prurigo a local eosinophilia is also present. Schamberg makes no mention of general eosinophilia, but in one of our cases of prurigo there was a general eosinophilia of 21 per cent. at the height of the disease, which gradually dropped to 2.6 per cent. with subsidence of the eruption. Eosinophilia in an individual case may, of course, be due to an intestinal parasite. This was excluded in this case by repeated examinations of the *fæces*, and the disappearance of the eosinophilia with the subsidence of the eruption would seem to show that the two were associated in this case. In one other case of prurigo a single examination showed an eosinophilia of 3.0 per cent., which is below the physiological maximum. It was made, however, during a period of comparative quiescence of the disease. On the other hand, Schwenker and Schlecht<sup>6</sup> have shown that in experimental anaphylaxis there is a marked peripheral eosinophilia as well as a local one in the peritonæum. If the guinea pig recovers from the anaphylactic shock, an enormous peripheral eosinophilia appears and in addition there is a marked eosinophilia in the lungs of such animals. They consider that a general eosinophilia after anaphylactic shock is a favorable reaction of the body against the toxine produced by protein splitting. Local eosinophilia was also found in the local skin anaphylaxis known as Arthus's phenomenon, in local lung anaphylaxis from inhalation and in the experimental enteritis anaphylactica of Schittenhelm and Weichardt. Asthma and hay fever are now recognized as anaphylactic in origin and the characteristic symptoms of both are seen in the various phases of serum disease. A feature common to both asthma and hay fever is a local eosinophilia—the secretions of the bronchus and nose in both are filled with eosinophiles.



Herrick<sup>7</sup> found that a notable eosinophilia of the blood can be developed by the intraperitoneal injection of an aqueous extract of *Ascaris lumbricoides* and that the substance causing such an eosinophilia was a protein. He further found that previous sensitization is necessary for the development of this eosinophilia and that it is impossible to produce eosinophilia while animals are immune to the extract. There was no eosinophilia during the anaphylactic shock—but immediately following the anaphylactic period the rise in eosinophiles was marked and constant and more pronounced as the previous sensitization had been more thorough. The eosinophilia disappeared in guinea pigs 24 to 72 hours later.

Acute anaphylactic shock in animals is characterized by loss of complement and delayed coagulation of the blood. We have made no observations as regards these conditions in our cases as they were studied before many of the present facts of anaphylaxis were known and recently no cases of dermatitis herpetiformis and prurigo have come under our observation and control. Leucopenia is another symptom of acute anaphylactic shock in animals, whereas in our cases a leucocytosis was constantly present. Recently, however, Schittenhelm, Weichardt and Grisshammer<sup>8</sup> have shown that albumin injected into sensitized animals causes a leucopenia lasting some hours, followed by a stage of leucocytosis which subsided after four to five days. This leucocytosis was mostly of the polynuclear neutrophiles, but as the leucocytosis began to decline, the eosinophilia reached high figures. The leucopenia was looked upon as due to preliminary inhibitory effect of the injection on the bone marrow and the leucocytosis as due to a subsequent stimulation.

The symptoms of acute anaphylactic shock in animals are so much more intense than those usually seen in man, that it is perfectly possible that the initial stage of leucopenia is entirely lacking in the human being.

3. DISTURBANCE OF PROTEIN METABOLISM.—Heilner<sup>9</sup> has shown that in sensitized animals, if a second parenteral injection of the specific protein be given in the pre-anaphylactic stage, it is speedily broken up by the specifically formed proteolytic ferment into non-toxic substances and we get an increased excretion of nitrogen in the urine. If, however, the second injection is given in the actual anaphylactic stage, protein metabolism is distinctly depressed, as shown by lowered excretion of nitrogen and diminished quantity of urine. As recovery takes place there is a gradual increase in the quantity of urine and in the excretion of nitrogen. This corresponds exactly with our findings in acute outbreaks of dermatitis herpeti-

formis and prurigo, though we are more inclined to attribute the scanty urine and low nitrogen excretion seen at the height of an attack to a toxic retention. Heilner does not consider that the specifically formed proteolytic ferment is missing or less effective during the actual anaphylactic stage. It may even be increased and the inhibition concern the intracellular mechanism by which the resulting split-products are further utilized. According to Heilner, it is not the character of the digestion products but their failure to be further transformed which leads to the phenomena of anaphylaxis.

Several other investigators have shown that an increased excretion of nitrogen follows the anaphylactic shock. The increased excretion surpasses the amount of albumin injected, showing that the reaction concerns not only the splitting up of the injected albumin but, also, of the body albumins.

We have been unable to find in the literature any work on the urine in anaphylaxis in relation to the nitrogen partition. If this conception of dermatitis herpetiformis and prurigo as anaphylactic phenomena is accepted, our findings of high rest-nitrogen and low urea-nitrogen associated with acute outbreaks, will substantiate Heilner's view that actual anaphylactic shock is associated with markedly depressed protein metabolism.

Taking all the preceding facts into consideration, it would seem that the classification of dermatitis herpetiformis and prurigo as anaphylactic phenomena is a justifiable one. Final proof in the form of animal experimentation is lacking, but it is hoped that this will be forthcoming in the near future.

#### INDICATIONS FOR TREATMENT AS SUGGESTED BY THE ÆTIOLOGICAL FACTORS.

1. Free purgation and diuresis in the acute attack, so as to eliminate the toxic bodies.
2. Restriction of the protein intake.
3. Measures to raise the general nerve tone.
4. If the offending protein or proteins can be determined from clinical observation, cutaneous inoculation, or animal experimentation, active immunization by means of small, gradually increasing injections of the said proteins at regular intervals, would seem to offer some hope of cure.
5. Thyroid by the mouth, especially the nucleo-protein of the thyroid prepared according to Beebe's method, seems to exercise a fairly constant detoxicating effect and to promote the synthesis

of urea. Indications for increasing or lowering the dose are obtained from the progress of the skin lesions and the condition of the pulse which should become soft and compressible under its use.

6. Arsenic in large doses has been of special service in aborting acute outbreaks of dermatitis herpetiformis, and its continued use in tonic doses tends to raise the general nerve tone.

7. Bresredka<sup>10</sup> showed that calcium chloride, when injected the day before the intoxicating dose, prevents anaphylactic shock. Rosenau and Anderson could not confirm these results, but recently Kastle, Healey and Buckner<sup>11</sup> have shown that an isotonic solution of calcium lactate (1 to 4 cc. of a 3.25% solution) used intraperitoneally, does prevent anaphylactic shock in guinea pigs. Clinically, the calcium salts are known to exercise a sedative action on the nervous system, to increase the coagulability of the blood and to lower the permeability of the blood vessels through increasing the calcium content of their walls. Their use in dermatitis herpetiformis and prurigo would, therefore, seem to be indicated. Possibly another feature of the metabolism of these two diseases is an increased excretion of calcium. I know of no investigations along these lines.

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#### DISCUSSION.

DR. SCHAMBERG said that Dr. Schwartz was to be congratulated on the presentation of this very carefully prepared scientific thesis. As he understood it, the paper might be divided into two sections; one, which dealt with demonstrated data, and the other, which went into the realm of hypothesis.

The speaker said he was much interested in the urinary findings in dermatitis herpetiformis and prurigo; it was rather unfortunate that the writer did not have the facilities at his command to determine the intake of nitrogen; this would have enhanced the value of the findings. He was also interested in the question of the increase in the ammonium salts of the urine, for an increase would make up in part for a deficit in the urea.

The difficulty in discussing that part of the paper which dealt with hypotheses was that the latter were themselves based on other hypotheses; while these were often useful as a working basis for further scientific investigation, he believed that they must always be accepted with due reservation.

DR. POLLITZER said that those who had done physiological work of this kind would be able to appreciate the painstaking character of the work presented by Dr. Schwartz. It seemed to him, at least from one point of view, that the theory advanced by Dr. Schwartz that prurigo was due to disturbances dependent on excessive protein intake might be regarded as probable—at least it had this very definite fact in its favor, namely, that a reduction of the protein intake brought about marked amelioration of the symptoms.

When we came to dermatitis herpetiformis, we were wholly in the realm of theory and it was to be regretted that experiments similar to those recounted by the reader of the paper were not attempted in a larger series of cases. That would be of great importance, for then we might have one fact established, that during an attack of dermatitis herpetiformis there was this particular metabolic disturbance that Dr. Schwartz had reported. That it was not due to an excess of protein intake he thought had been demonstrated. As to its being an anaphylactic phenomenon, such phenomena, while usually fairly characteristic, differed in different animals when produced by the same cause, different groups of organs and tissue being affected in different types of animals. In all, however, the symptoms were abrupt and rapid in their onset, a condition not observed in dermatitis herpetiformis, where the development of the eruption occupied a week or two. In those eruptions which we attributed to an idiosyncrasy, those, for instance, following the ingestion of strawberries or of some forms of protein, the lesions were sudden and rapid in their development, sometimes appearing after a few minutes,—which was not what we saw in dermatitis herpetiformis.

DR. GILCHRIST said that Dr. Schwartz's paper opened a new line of investigation. It implied, of course, an immense amount of detail work for the young men of the profession to undertake.

In the sweat apparatus, Dr. Gilchrist said, we had an organ somewhat similar in its function to the kidney and if there was any interference with this function, preventing proper elimination, disturbances of the skin were apt to occur. In one case of pityriasis rubra pilaris at the Johns Hopkins Hospital, very careful metabolic studies were made by Drs. McElfresh and Smith, and it was found that the amount of urea excreted by the urine and faeces was very small, but that a good deal was being excreted by the skin and there was a great retention of nitrogen. Reasoning by analogy, it was possible that certain skin lesions were produced by the excretion of certain deleterious substances by the sweat apparatus. The functional activity of the kidneys was now being tested by phthalein and other substances and possibly substances might be found to test the functional activity of the skin.

The speaker said he was inclined to agree with Dr. Pollitzer that in anaphylactic phenomena the attacks were usually more acute than in dermatitis herpetiformis.

DR. SCHWARTZ said that in one of the cases previously reported, the total protein intake had been estimated for months at a time, covering a period during which the patient had quite a number of different attacks and it was found that a constant association between the disturbed metabolism and the eruption existed. Unfortunately, in the case here reported, it had not been possible to precipitate an attack by forced protein intake, but in these attempts a single protein had been employed, namely, chopped meat, to which the patient might not have been sensitized. The result might have been different if another protein had been used. He had now studied six cases of dermatitis herpetiformis and three cases of prurigo and this association between disturbed protein metabolism and acute outbreaks of either disease was constant and characteristic. In his experience, attacks of dermatitis herpetiformis did not always develop slowly; frequently they came out very suddenly indeed. In any case, anaphylactic shock would, of course, develop more slowly when the protein was administered by

way of the alimentary canal, than when given subcutaneously. The disturbance in protein metabolism, the blood and tissue changes and the type of the eruption were identical in dermatitis herpetiformis, prurigo and anaphylactic disease and this seemed to him to support strongly the theory advanced. Animal experimentation was, of course, necessary to establish the point absolutely.

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## AN ATTEMPT TO DETERMINE THE BACTERIAL ETIOLOGY OF ACNE WITH THE COMPLEMENT FIXATION REACTION.\*

By MARCUS HAASE, M.D., Memphis, Tenn.

**I**N a previous article<sup>1</sup> an effort was made to bring order out of the chaotic condition, then existing, regarding the bacterial etiology of acne.

This endeavor was successful only to the extent of establishing the fact that the several bacilli observed by other investigators were identical, and that the apparent differences reported by them were the results of varying environments and different modes of culture.

Whether Trachsler's Milk White coccus, which has the support of Unna, or the *Bacillus acnes*, or the more recent *Diplococcus* of Varney and Clark, is the true bacterial etiological factor remained undetermined.

While it is true that Varney and Clark made no claim for their *Diplococcus* as a factor in *acne vulgaris*, an investigation that ignored the admirable work done by them would be incomplete.

Trachsler claims to have produced comedones on an acne-free girl by rubbing an emulsion of her coccus into the skin of the cheek, and Flemming reports the production of pustules on an arm in a similar manner with the bacillus. Repeated attempts to confirm these experiments were unsuccessful.

The object of this communication is to report the result of studies of the bacterial etiology of acne by the complement fixation reaction.

The technique used, except as to minor details, was that suggested by Swift and Thro.<sup>2</sup>

The organisms employed were obtained from the following sources: Cultures of the Milk White coccus were secured direct from

\* Read before the 37th Annual Meeting of the American Dermatological Association, Washington, D. C., May 6-8, 1913.

Dr. Trachsler, and the *Bacillus acnes* and Varney and Clark's *Diplococcus* from Parke, Davis & Co.

For preparing the antigens, twenty-four-hour cultures were used, except for the bacillus.

The cultures were washed with normal salt solution, centrifuged, and the residue dried in vacuo over sulphuric acid, after which it was ground in a mortar with sterile salt and brought to normal with 0.5% phenol solution. It was then shaken for twenty-four hours, centrifuged, and the supernatant fluid titrated.

The rabbits were immunized by repeated intravenous injections of bacteria, killed by heating at 60 degrees C. for thirty minutes.

In the protocol are shown the anticomplementary and fixing power and dose determined in both normal and immune serum.

The cases used in the tests were from private practice, and care was taken that none had received bacterins of any nature.

#### CASE REPORTS.

CASE 1. Male, age 38, duration 21 years, had been very severe; at present numerous comedones and a few papules and superficial pustules are present on the neck, cheeks and chin.

CASE 2. Male, age 23, duration 6 years, had never been severe, at present comedones, papules and pustules.

CASE 3. Male, age 30, previously very severe; now numerous comedones on the neck and back and a few indurated lesions on the back.

CASE 4. Female, age 17, duration 9 months; a mild eruption, comedones and papules on the forehead and cheeks.

CASE 5. Male, age 19, duration 15 months; confined almost entirely to the forehead, comedones numerous, among which are a few small papules.

CASE 6. Male, age 23, duration 7 years; moderately severe, comedones, papules and a few superficial pustules.

CASE 7. Male, age 31, duration 10 years, had been quite severe five years ago, following a prolonged illness; at present there are a few comedones on the neck and back.

CASE 8. Male, age 21, duration 6 years; until two years ago eruption had been exceedingly severe, deep indurated lesions producing ugly scars on the neck and cheeks.

CASE 9. Male, age 22, duration 4 years; had always been exceedingly mild; disease localized to cheeks where there are a few comedones and papules.

CASE 10. Female, age 19, duration 3 years; very mild; there are at present a few comedones on the cheeks and forehead.

CASES 11, 12 and 13 are normal controls; two males, one female; ages 30, 26 and 18 years respectively.

Serum from these cases and controls reacted as shown in Table 1.

TABLE NO. 1—RESULT OF COMPLEMENT FIXATION IN ACNE.

Amount Antigen	C. C.	Case No. 1	Case No. 2	Case No. 3	Case No. 4	Case No. 5	Case No. 6
Antigen A.....	0.03	C. H.	C. H.	C. H.	C. H.	C. H.	Mkd. I.
Antigen B.....	0.05	C. H.	Sl. I.	Sl. I	C. H.	C. H.	Mkd. I.
Antigen C.....	0.10	C. I.	Mkd. I.	C. I.	C. H.	C. H.	C. I.

Amount Antigen	C. C.	Case No. 7	Case No. 8	Case No. 9	Case No. 10	Case No. 11	Cases 12-13
Antigen A.....	0.03	C. H.	C. H.	C. H.	C. H.	C. H.	C. H.
Antigen B.....	0.05	C. H.	C. H.	C. H.	C. H.	C. H.	C. H.
Antigen C.....	0.10	C. I.	C. I.	C. H.	C. H.	C. H.	C. H.

Cases 1-10 inclusive represent patients with Acne.  
Cases 11, 12, 13 represent normal controls.

It will be noted that antigen A fixed complement with the serum of only one patient—Case 6, and that antigen B gave the same reaction in the same case and slight inhibition in two others—Cases 2 and 3; while antigen C gave complete inhibition in five cases and marked inhibition in one other.

All cases of long duration gave positive results with antigen C.

Further work was then done to determine the relationship, if any existed, between the three organisms, with results as shown in Table 2.

TABLE NO. 2—FIXING POWER OF IMMUNE SERA WITH THE DIFFERENT ANTIGENS

Amt. Ant.	C. C.	Rabbit A	Rabbit B	Rabbit C	Rabbit D
Antigen A.....	0.03	C. I.	C. I.	P. I.	C. I.
Antigen B.....	0.05	C. I.	C. I.	Sl. I.	C. I.
Antigen C.....	0.10	C. H.	C. H.	C. I.	C. H.

Rabbit D—Immunized by daily injections of *Staphylococcus Albus*.

Finding that 0.1 cc. of all immune rabbit sera fixed complement with antigens A and B, a fourth, Rabbit D, was immunized by daily injections of stock *Staphylococcus albus* bacterius and the experiment carried further to confirm the apparent close relationship of the milk white coccus of Trachsler and the *Diplococcus* of Varney and Clark, to *staphylococcus*.

The sera of all rabbits were then used in diminishing doses with the same result.

That the serum of Rabbit C fixed complement with antigens A and B was due, no doubt, to the presence of some form of coccus, probably *Staphylococcus albus*, in the immunizing agent.

DETERMINATION OF ANTICOMPLEMENTARY AND FIXING POWER  
OF DIFFERENT ANTIGENS

ANTICOMPLEMENTARY POWER										FIXING POWER									
AMOUNT OF RABBIT SERUM C. C.				AMOUNT OF ANTIGEN C. C.				Guinea Pig Complement 1-10 C.C.		Hamolysin 2 Units. C.C.		Sheep Cells 5%. C.C.		RESULTS					
Rabbit Normal	Rabbit A	Rabbit B	Rabbit C	Antigen A	Antigen B	Antigen C								Rabbit Normal	Rabbit A	Rabbit B	Rabbit C		
0.0	0.0			0.4			0.5	0.8	0.15	0.5					C.I.				
0.0	0.0			0.3			"	"	"	"					C.I.				
0.0	0.0			0.2			"	"	"	"					C.I.				
0.0	0.0			0.1			"	"	"	"					S.I.				
0.0	0.0			0.05			"	"	"	"					V.S.I.				
0.0	0.0			0.03			"	"	"	"					C.H.				
		0.0			0.4		"	"	"	"						C.I.			
		0.0			0.3		"	"	"	"						C.I.			
		0.0			0.2		"	"	"	"						S.I.			
		0.0			0.10		"	"	"	"						S.I.			
		0.0			0.05		"	"	"	"						C.H.			
		0.0			0.03		"	"	"	"						C.H.			
			0.0			0.4	"	"	"	"							Mkd. I.		
			0.0			0.3	"	"	"	"							Mkd. I.		
			0.0			0.2	"	"	"	"							Mkd. I.		
			0.0			0.1	"	"	"	"							S.I.		
			0.0			0.05	"	"	"	"							C.H.		
			0.0			0.03	"	"	"	"							C.H.		
0.1				0.4			"	"	"	"				C.I.					
0.1				0.3			"	"	"	"				C.I.					
0.1				0.2			"	"	"	"				C.I.					
0.1				0.1			"	"	"	"				Mkd. I.					
0.1				0.05			"	"	"	"				S.I.					
0.1				0.03			"	"	"	"				C.H.					
0.1					0.4		"	"	"	"				C.I.					
0.1					0.3		"	"	"	"				C.I.					
0.1					0.2		"	"	"	"				C.I.					
0.1					0.1		"	"	"	"				C.I.					
0.1					0.05		"	"	"	"				S.I.					
0.1					0.03		"	"	"	"				C.H.					
0.1						0.4	"	"	"	"				C.H.					
0.1						0.3	"	"	"	"				C.H.					
0.1						0.2	"	"	"	"				C.H.					
0.1						0.1	"	"	"	"				C.H.					
0.1						0.05	"	"	"	"				C.H.					
0.1						0.03	"	"	"	"				C.H.					
0.1	0.1			0.4			"	"	"	"					C.I.				
0.1	0.1			0.3			"	"	"	"					C.I.				
0.1	0.1			0.2			"	"	"	"					C.I.				
0.1	0.1			0.1			"	"	"	"					C.I.				
0.1	0.1			0.05			"	"	"	"					C.I.				
0.1	0.1			0.03			"	"	"	"					C.I.				
		0.1			0.4		"	"	"	"									
		0.1			0.3		"	"	"	"									
		0.1			0.2		"	"	"	"									
		0.1			0.1		"	"	"	"									
		0.1			0.05		"	"	"	"									
		0.1			0.03		"	"	"	"									
			0.1			0.4	"	"	"	"									
			0.1			0.3	"	"	"	"									
			0.1			0.2	"	"	"	"									
			0.1			0.1	"	"	"	"									
			0.1			0.05	"	"	"	"									
			0.1			0.03	"	"	"	"									
				0.4			"	"	"	"									
				0.3			"	"	"	"									
				0.2			"	"	"	"									
				0.1			"	"	"	"									
				0.05			"	"	"	"									
				0.03			"	"	"	"									
					0.4		"	"	"	"									
					0.3		"	"	"	"									
					0.2		"	"	"	"									
					0.1		"	"	"	"									
					0.05		"	"	"	"									
					0.03		"	"	"	"									

RABBIT A—Immunized by repeated injections of Dip. Acne of Varney and Clark.

ANTIGEN A—Antigen made from Dip. Acne of Varney and Clark.

RABBIT B—Immunized by repeated injections of the "Milk White" coccus of Trachsler.

ANTIGEN B—Antigen made from the "Milk White" coccus of Trachsler.

RABBIT C—Immunized by repeated injections of the Bacillus Acne.

ANTIGEN C—Antigen made from the Bacillus Acne.

C.I. indicates complete inhibition. Mkd.I., marked inhibition. P.I., partial inhibition.

S.I., slight inhibition. V.S.I., very slight inhibition. C.H., complete hæmolysis.



Does not the foregoing work safely establish the *Bacillus acnes* as the causative agent in acne vulgaris, and open a field of investigation for the determination of the ætiology in many of our chronic dermatoses?

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## DISCUSSION.

DR. VARNEY said he was much interested in Dr. Haase's further work in connection with the ætiology of acne. In the isolation of the diplococcus, which interested him three years ago, the cases in which it was found presented a clinical condition which undoubtedly would be classified as acne vulgaris, but when they were later seen by Dr. George T. Jackson of New York and by Dr. Biddle of Detroit, they contended that they had never seen such a condition manifested dermatologically. The speaker said that when he exhibited the diplococcus before this Association two years ago, he declared that he did not claim that this organism was an ætiological factor in acne, but that this diplococcus was the specific organism in the group of cases reported, which were acne form clinically. The results obtained by inoculations with the autogenous bacterial suspensions and the twenty-nine cross agglutination tests were confirmatory of the ætiology of the organism.

Dr. Varney said that with his fixation tests, he was unfortunate in that his cases, except one, had been inoculated, and the serum from this case was not sufficient evidence to be of value. The immunized animal serum is still on hand for the next case showing the diplococcus infection, when this test will be rechecked. In the further observation of this organism, one change had taken place. While it still maintains its diplococcic arrangement, it has lost slightly its alkaline reaction in litmus milk. Dr. Varney said he was still interested in the organism and was on the lookout for another patient from whom he could obtain it, so that he might check up the work that had been shown by Dr. Haase.

Dr. GILCHRIST said that on several occasions he had attempted to reproduce the lesions of acne by rubbing the organism into the skin or inserting it into pockets made in the skin, but his efforts in this direction were always unsuccessful. Apparently, the conditions were unfavorable. They had found it a very difficult organism to grow, and during the past two years they had been unable to grow it at all in spite of the fact that the media were prepared in exactly the same way by the same man; sometimes it turned out satisfactorily; more often it did not; but in his first work he seemed to have no difficulty at all.

Dr. SCHAMBERG expressed the hope that Dr. Haase would go on with this work in the complement fixation test with the *Bacillus acnes*. If he succeeded in confirming his earlier findings, he would forge a strong link in the chain of evidence pointing to the specificity of this organism.

Dr. HAASE said that he had been very much interested in Dr. Varney's organism and could confirm what Dr. Varney says in regard to its diplococcic form. It is certainly not an ordinary staphylococcus and the same might be said of Schwenter-Trachsler's "milk white coccus."

It would be interesting to determine what relation these two bear to the polymorphic coccus of Cedercreutz.

Of course the work that has been done with the complement fixation is very

little, but he hoped to carry it further as suggested by Dr. Schamberg, with the *Bacillus acnes*, and when time permitted, take up other chronic infectious dermatoses, as he believed that this method would determine the infective agent in many of these diseases.

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## CLINICAL REPORT.

### REPORT OF THREE CASES OF XERODERMA PIGMENTOSUM.

By C. AUGUSTUS SIMPSON, M.D., Washington, D. C.

#### CASE REPORTS.

A. C., thirteen years old, from Almondale, Maryland.

**FAMILY HISTORY.** The father and mother are living and in good health. There are sixteen children. There are six brothers living, four are dead, one of them dying of this condition. There are five sisters, all living but one; the cause of this death is unknown. All brothers and sisters now living are in good health.

**PREVIOUS HISTORY.** The disease began when the child was four months old, as freckles and pigmented spots on the face, neck, hands and lower arms. Lesions soon developed on the feet and lower legs also. The condition has progressed for twelve years, improving during the winter months, only to relapse the following summer.

**GENERAL CONDITION.** The child has visibly failed since I saw her last, fifteen months ago. She is rather under size, quite thin and anæmic-looking, her appetite is good, digestion and mentality splendid, and there are no nervous symptoms. This has been her past history, according to her mother and sister. She is suffering from conjunctivitis and other eye troubles as a result of the disease.

**PRESENT CONDITION.** At present her skin lesions are of a multiform and interesting character, consisting of light and dark-brown freckles, ranging in size from the head of a pin to a finger-nail. These cover the hands, wrists and lower part of the arms, but fading and disappearing above the elbows. Her neck, face and ears show the same lentigines. The feet and lower legs present similar lesions, and here, too, the pigmentations become paler and smaller as the trunk is approached, finally disappearing and fading into the dry xerodermatous skin of the upper legs, arms and body.

Between the pigmented spots can be seen white, pale, shiny, atrophic areas, of irregular shape, ranging in size from a pea in some locations to that of a quarter. In some regions, as the left side of the face, these atrophic areas have apparently coalesced into a spot as large as a dollar. Scattered irregularly among the cicatricial-looking areas, on close examination, can be seen telangiectases, consisting of red, pinpoint or larger vascular branches, in some locations plentiful enough to give the atrophic spots a pinkish tinge. Over the entire body the skin is of a dry, scaly, parchment consistence, but much more so on the exposed surfaces, where, in addition to the general hyperkeratosis, can be seen the circumscribed thickened spots and horny formations, one-quarter of an inch high. When I saw her fifteen months ago, she had several of these horny growths which have since been pulled off, on her hands and face. On both hands, near the base

of the third finger, can be seen the remains of these, one of which, she tells me, grew to be half an inch long. I have noticed this tendency to form and reform in my other cases. This may take place time and again, before finally undergoing an epitheliomatous degeneration.

The case now presents a variety of skin lesions, namely, dark-brownish pigmentations, atrophic plaques, telangiectases and circumscribed, thickened, horny formations and localized and accentuated hyperkeratotic growths, a part of the dry, harsh xerodermatous skin which is universal.

It is rather remarkable to have three cases of this rare condition in one's practice in three years, as Stelwagon and most of the American authors claim to have the reports of less than one hundred cases. Two years ago I exhibited two cases before the George Washington Medical Society of this city, one case being referred to me by Dr. Moulden and the other by Dr. Spencer, both of Washington.

The case of Dr. Moulden's was exhibited before one of the meetings of the American Dermatological Society held in this city some years ago. She was a poorly nourished child ten years old, in the advanced stages of the disease. The exposed surfaces were covered with pigmented spots, atrophic plaques, horns and multiple epitheliomata. She died about one year ago from the disease. There were several other children in the same family, but all were living and in good health.

The case of Dr. Spencer's was a little boy five years old, in apparently good health, well nourished, with no digestive or nervous symptoms. The exposed surfaces were covered with large, brown freckles, which paled and almost disappeared on the covered parts of the body. The entire surface of the body was unusually dry and harsh, but the hands and face were even more so. On this dry, exposed surface the skin was thickened, cracked and scaly. In some locations the scales were heaped up into horns. Under the left eye was a very prominent horn, which was as large as the little finger and half an inch long, tapering to a point. It was of a dirty-brownish color with a rounded base, which was apparently set into the skin and loosely attached, making removal very easy. Several of these had formed before and had been spontaneously shed. The condition had been progressing for three years, improving during the fall and winter months, although never entirely disappearing. The spring and summer months always brought more pigmentations, scales and horns. There was no evidence of eczema, Addison's disease or the dull-red hyperæmic skin condition seen in beginning pellagra. Also, there were no gastric, intestinal, nervous or mental symptoms found in this disease of three years' duration. There was a history of the child taking arsenic for some months but this was two years after the disease began and seemed to have no influence, one way or the other. After trying several lotions and salves, which had not the slightest effect, the case passed from my hands.

Cases one and three refused to allow sections to be taken for microscopic examination. The second case I saw only once, when I presented her to a medical

society. Two of them gave a history of being the children of parents closely related, one father and mother being first cousins, the parents of the other child being second cousins. These cases, with the 33 additional cases from the Japanese literature, make a total of 232 cases now on record.

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## DERMATOLOGICAL THERAPEUTICS.

By

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### CHRYSAROBIN.

(Continued from page 958.)

A useful and active chrysarobin ointment is the following:

R	Chrysarobini .....	5.0
	Acid. salicyl. ....	10.0
	Ol. eadini .....	15.0
	Ichthyoli .....	20.0
	Ung. simpl. ....ad.	100.0 M.

This mixture is not excessively irritating to the skin, while its therapeutic effects are remarkably good and the formula easy to remember. The substitution of zinc oxide paste and lanoline, equal parts, for the unguentum simplex, renders the salve much milder in effect, but also somewhat too expensive for dispensary use.

OINTMENT PLASTERS of chrysarobin are made with the mass spread upon muslin (Salbenpflastermulle of Unna) and with the mass upon rubber. The latter is dangerous to use on account of its blistering action. The ointment plasters on muslin are manufactured in strengths of 5%, 10% and 20%, plain or combined with 5 to 10% salicylic acid. Such plasters constitute the best means of applying chrysarobin to small, well-defined areas, as the remedy acts only upon the surface covered by the plaster. The latter protects the clothing from being stained and also diminishes the danger of conjunctivitis. The plaster should be changed every three days at most and the surface rubbed clean with oil or cold cream before the new plaster is applied.

PASTES AND PASTE PLASTERS are rarely used as vehicles for chrysarobin. Pastes are essentially hygroscopic in action and are, therefore, unsuited for the treatment of the dry, scaling lesions on which chrysarobin develops its most brilliant remedial effects.

OINTMENT AND PASTE PENCILS differ but slightly in composition and the indications for their use as vehicles are identical. These pencils form a clean, accurate and thoroughly satisfactory way of applying chrysarobin to small areas, such as small patches or single lesions of psoriasis on the scalp or body, patches of ringworm, alopecia areata, etc., where the lesions are too much scattered to render the use of an ointment safe or the application of a plaster practicable. The spots treated with the chrysarobin pencil can be covered afterwards with gelatine, zinc plaster, collodion or traumaticine. This is the best method of using chrysarobin on the neck and face and probably, also, the safest. Where numerous pea-sized lesions are present—as in guttate psoriasis—each can be neatly and rapidly treated without danger to the surrounding normal skin and then covered with a drop of protective collodion..

Unna (Ueber Salben-und Pastenstifte, *Monatsh. f. prakt. Dermat.*, 1886, v, p. 163) recommends for the paste pencils a mixture of starch, sugar, gum arabic and tragacanth (no exact formula is mentioned) and for the ointment pencil (stilus chrysarobini unguens) the following:

R	Chrysarobini .....	30.0
	Colophonii .....	5.0
	Ceræ flavæ .....	35.0
	Ol. olivæ .....	30.0 M.

SOAP. This is almost useless and, indeed, even dangerous when used in the form of cakes, but as a soap powder it forms a readily available means of making an efficient plaster mass which is applied after being moistened and spread upon cotton. The keratolytic effect of the soap upon scales and crusts enables the chrysarobin to act rapidly and thoroughly upon the underlying tissues.

CHRYSAROBIN OXIDE (Chrysarobinum Oxidatum) is mentioned by Liebreich and Langgard (*Arzneiverordnung*, p. 196) as a product of the action of peroxide of soda upon chrysarobin, the resulting substance being a brown-black powder. Its action resembles that of chrysarobin, but is much weaker; upon psoriasis the remedy is without effect. It is recommended for us in chronic eczema on the face and genitals, in ointments of from 5 to 10% strengths.

#### PRACTICAL THERAPEUTIC USE OF CHRYSAROBIN.

VITILIGO. Leistikow and Darier (*Thérapeutiques des maladies de la peau*, p. 415) quote Unna and Lassar as recommending chrysarobin for this condition, in the form of 5% chrysarobin in gelanthum, and add that this treatment is most successful.

MELANODERMA. Leloir (*Traitement des mélanodermies*, *Journal des connaissances médicales*, 1886, July) found sublimate and other forms of treatment usually recommended for this condition entirely useless. He recommends a solution of chrysarobin in chloroform (dose not stated) to be sprayed on the affected surface and covered with traumaticine.

With this treatment he cured a number of cases rapidly. It is, however, of use in superficial, epithelial, melanoderma only, and useless when the pigment is in the dermis.

**ALOPECIA AREATA** is best treated, according to Leistikow and Darier (*loc. cit.*, p. 427), with Unna's chrysarobin ointment pencil. The spots are touched each evening and a cap is worn.

**CHRONIC ECZEMA.** There is but one form of eczema in which chrysarobin is indicated. This is the very obstinate, chronic type with absolutely dry surface, psoriasiform scales and a tough, leather-like base of dermal infiltration. Here chrysarobin, after the surface is cleaned by salicylic acid and green soap, may be applied either as a plaster of 10% strength, a paste or as Dreuw's ointment. The therapeutic action must be carried to the point of causing a dermatitis with slight œdema. The resulting stimulation should produce an absorption of the infiltration of the dermis, a softening of its connective tissue, a contraction of the blood and lymph vessels and finally a return to the production of a normal epidermis.

**LICHEN PLANUS HYPERTROPHICUS** may be treated in the manner just described and usually with excellent results. The internal treatment of this disease should not, however, be neglected.

**RINGWORM.** The unquestioned superiority of Roentgen therapy in the treatment of ringworm of the scalp has placed purely medicinal measures among those, the use of which is now justified only when the X-ray method cannot be employed. As with salicylic acid and with iodine, chrysarobin is capable of curing tinea capitis or at least many forms of it, but the treatment usually requires from six months to a year or more to affect a cure and is not only painful to the patient but also not free from danger, owing to the liability to conjunctivitis. Chrysarobin, in whatever form it may be used, cannot penetrate into the lower two thirds of the hair follicles to destroy the spores and mycelia which are found there. Hence the action of the drug as a parasiticide is purely superficial and limited to destroying such fungi as are on or near the surface and thus protecting healthy follicles from infection. The disease is therefore cured by the falling out of the diseased hairs one by one, together with the fungi they contain, until no affected follicles remain.

Sabouraud (*Les teignes*, II, p. 762) states that "chrysarobin in the treatment of tinea had its hour of celebrity and at least this remedy is not without value." Unna thought that he could cure ringworm of the scalp in four weeks. His method may be summarized as follows:

1. Cut the hair short.
2. Protect forehead, neck and ears with zinc mucilage.
3. Apply:

R	Chrysarobini .....	5.0	
	Acid. salicyl. ....	2.0	
	Ichthyoli .....	5.0	
	Ung. simpl. ....	100.0	M.

and cover with a cap. Remove the cap, clean the surfaces and apply more ointment daily for four days. Then allow one week's rest, during which apply a weak ichthyol ointment. Clean the scalp with oil and soap and water and repeat the first application. Examine the hairs for fungi at the end of four weeks. Unna (*Zur Behandlung der Trichophytia capitis*, *Monatsh. f. prakt. Dermat.*, 1889, viii, No. 12, p. 543) reports finding the examination of the hairs gave negative culture tests at the end of this time. This result was probably due to faulty bacteriological technique. Marianelli (*Sulla cura della tigna tonsurante del capillizio con la chrysarobina*, *Gior. ital. d. mal. ven.*, 1890, p. 359) found this treatment to act well on the glabrous skin but poorly on the scalp, where the hairs, after four series of applications, still showed fungi. Of 16 cases, he cured only one by this method.

**PSORIASIS.** The treatment of this disease by chrysarobin is a subject of such importance that I shall not attempt in a paper of this kind to give more than a few general hints. A good beginning can be made by subjecting the patient to a thorough preparatory treatment to remove all scales and thus enable weak percentages of the drug to act rapidly and well. At the same time, a careful examination of the urine and blood should be carried out to guard against accidents. At first, chrysarobin should be used for a few days on a small area and the degree of tolerance carefully observed. If but a few nummular lesions are present the drug may be used in pencil or plaster form or an active ointment such as that of Dreuw painted on and the spots then covered with zinc plaster. Chrysarobin plasters which also contain from 5 to 10% salicylic acid are excellent for certain obstinate patches of about the size of the palm of the hand or slightly larger. When the lesions are so numerous as to involve the greater part of the body surface—exclusive of the head—ointments must be prescribed and in strengths of not more than 5% of chrysarobin; the surface affected should be divided into three or four parts and each day only one part should be treated. If the drug acts well, watch for the appearance of the usual erythema of the normal skin and the whitening of the psoriatic areas. When this occurs and the skin is quite free from scales, the treatment with chrysarobin should be stopped and the sites of the old lesions painted with a tar preparation—oil of cade, for instance. If the chrysarobin ointment is disappointingly slow in action, do not increase the proportion of the drug unless the area to be treated is small and the tolerance of the patient good. If the area be large, it is best to repeat the preparatory treatment and then again try weak percentages of chrysarobin.

During the use of chrysarobin, the urine should be frequently examined and the use of the drug stopped immediately upon the slightest sign of renal irritation. I have seen two bad accidents—each discreditable to the attending physician—result from neglect of this rule. Chrysarobin should never be used on patients with any form of nephritis or anæmia.

What might be termed the average case of psoriasis consists, as a rule, of a few or at most a moderate number of nummular lesions, which are frequently widely separated. For these, the ointment of Dreuw (see paragraphs above relating to ointments) acts very well when rubbed into each lesion with a stiff stencil brush. This ointment produces a black crust when applied daily, for several days. Dreuw's ointment acts brilliantly upon old and particularly obstinate psoriatic patches, owing, according to the statements of its originator, to a peculiar chemical action of the alkaline soap tincture upon chrysarobin. The ointment is, however, the most powerful form of the drug in use to-day and must be employed with great care. It should never be given to the patient but should be applied by the physician only.

When a course of treatment by chrysarobin has reached its end, the skin of the patient should be cleansed by rubbing the affected areas with gauze or cotton sponges dipped in a bland oil. Then and not before should bathing be permitted. This proceeding will save the patient much discomfort.

For psoriasis of the neck, face and scalp or hands, the best remedy, after a preparatory cleaning with salicylic acid, is probably white precipitate. The following formula of Pinkus is a good one:

R	Acid. carbol. lig. ....	1.0
	Balsam. peruvian. ....	
	Hydrarg. præcip. alb. ....	5.0
	Vaselin. flav. ....	100.0 M.

This ointment is of little use for psoriasis of the trunk and extremities, but is sufficiently powerful to act satisfactorily upon lesions on the head.

#### DOSAGE.

In prescribing chrysarobin, the question of proper dosage is one of great importance on account of the fact that this remedy is not only, under certain conditions, a powerful local irritant, but also capable of producing severe toxic symptoms from absorption through the skin. In former times, ointments of 10% were usually employed over large surfaces, and the use of salves containing even 20% of the drug was not uncommon. The therapeutic results were often brilliant, but cases of extremely severe dermatitis and poisoning from absorption through the skin were so frequent as to cause chrysarobin to be regarded as a very dangerous remedy. Thanks to the efforts of Neisser (*Ueber Psoriasis Therapie, Zeitschr. für aerztliche Landpraxis*, 1894, Nos. 1 and 2) and Jadassohn (*Dermatotherapeutische Notizen, Zeitschr. für prakt. Aerzte*, 1897, Nos. 7 and 8) the old ideas in regard to dosage are no longer acceptable, and the drug is now prescribed in the smallest possible percentages consistent with proper therapeutic effect. While it may be



justifiable to apply an ointment, paste or plaster containing more than 10% to one or two comparatively small but obstinate patches, yet 10% should be considered as the maximum dosage in the treatment of an area as large as the arm. For more extensive surfaces, 5% is quite enough, and while perhaps slower in action, is nevertheless quite as reliable and much less dangerous than larger proportions. Even the last-named dose should never, under any circumstances, be applied to more than one-quarter of the body surface at one time.

Jadassohn (*loc. cit.*) rendered the profession a great service in demonstrating the splendid therapeutic action of small percentages of chrysarobin in cases where at least 10% is usually prescribed. Believing that the usual doses produce overstimulation of the skin and that this in turn is responsible for painful dermatitis and even fresh crops of psoriasis lesions, Jadassohn employed ointments containing only 1% of chrysarobin, and was surprised to see how active this dosage proved to be, its curative properties comparing favorably with 10% ointments. In the course of further experimentation, he reduced the proportion of chrysarobin to  $\frac{1}{2}\%$ ,  $\frac{1}{4}\%$  and  $\frac{1}{10}\%$ . Jadassohn states that even the weakest of these may cause dermatitis, but this complication is rare and the degree of inflammation is slight. Conjunctivitis is rare and staining of the clothing is insignificant. Ordinarily, no preparatory treatment is necessary. Jadassohn begins with chrysarobin ointments of  $\frac{1}{10}\%$ , and increases the dose, when necessary, to 1%. Salicylic acid, 1 to 10%, may be added as an adjuvant. Patients soon become accustomed to chrysarobin, and then the dosage, initially weak, may be slowly increased.

Jadassohn also found 1% solutions of chrysarobin in chloroform or traumaticine to be better than stronger mixtures. The applications are made every four days and often three or four suffice to produce a disappearance of the lesions.

Blaschko and Jacobsohn (*Therapeutisches Taschenbuch*, p. 24) also recommend very weak chrysarobin ointments ( $\frac{1}{4}$  to  $\frac{1}{2}\%$ ), particularly for anal and serotal eczemas.

Pinkus (*Psoriasis, Äusserliche Behandlung, Med. Klin.*, 1912, No. 17, p. 700) states that chrysarobin ointments of 1 to 1000 are sufficiently strong for many cases, while for out-patients who cannot be properly kept under observation, an ointment stronger than 1% should not be given.

The trend of the modern treatment of psoriasis is to decrease to the minimum the percentage of chrysarobin employed in each application and I feel sure that those of our readers who are able to give these reduced dosages a fair trial, will not regret the time so employed.

#### ADJUVANTS.

The best and most rational adjuvant to chrysarobin consists of a thorough preparatory treatment of the skin, with the object of removing

as far as possible, all scales before the drug is applied. This is done by means of hot scrub baths and the use of salicylic acid, either in ointments or as soap plaster muslins. When the greater portion of the scales is removed, the action of even small quantities of the drug is both rapid and satisfactory, while the danger of dermatitis is diminished on account of the comparatively feeble strengths of chrysarobin applications employed.

SALICYLIC ACID is a most efficient adjuvant to chrysarobin, increasing the penetrative power of the latter and thus enabling much smaller percentages to be used. This in turn diminishes the dangers of chrysarobin administration. Both drugs possess keratolytic powers, but while chrysarobin causes the horny layer to become hard and separate from the underlying strata largely through stiffness, salicylic acid acts as a simple solvent of the keratinized tissue which is broken up into innumerable soft, minute particles. Hence salicylic acid increases the penetrative power of chrysarobin by rendering the horny layer comparatively permeable. This action does not occur if the acid be added to a solution of chrysarobin. Therefore ointments, pastes, plasters and collodions are best adapted as vehicles for the combination; 5% of the acid is sufficient as an addition to applications for ordinary cases of psoriasis or dry, chronic eczema, but when an unusual degree of scaling or infiltration is found on small areas, 10% may be used.

ICHTHYOL modifies the action of chrysarobin by rendering the latter much less irritating and perhaps slightly less active. Ichthyol is an excellent addition to chrysarobin applications for patients with sensitive skins and prone to dermatitis. When pure ichthyol is used as a vehicle for chrysarobin, the result is a tar-like mass which dries almost entirely in half an hour after being applied to the skin. The slightly sticky surface can then be rendered dry by dusting on talcum powder. This combination limits the action of the drug to the area under treatment, diminishes the dangers of conjunctivitis and at the same time develops an efficient therapeutic effect.

TAR is a very desirable adjuvant on account of its so-called alterative properties. Even when used alone, it has proved efficient in the treatment of some forms of psoriasis. Tar may be combined with chrysarobin either as oil of cade or as the more active but very pungent oil of birchwood (*oleum rusci*) in proportions of from five to twenty per cent. The general effect of the tar, when so used, is to intensify the action of the chrysarobin without increasing the tendency to dermatitis. The latter constitutes an absolute contraindication to the use of tar.

RESORCIN has been mentioned by some writers as a possible adjuvant to chrysarobin. Both are reductants and while favoring keratinization, also cause the horny layer to become stiff and hard. Like chrysarobin, resorcin is a good solvent of dermal infiltrations and a powerful exfoliant. Dreuw (*Ueber Chrysarobin und Pyrogallolsalben mit Alkalizusatz*, *Monatsh. f. prakt. Dermat.*, xlix, 1909, p. 531) suggests the addi-

tion of 20% resorcin as an adjuvant to his well-known chrysarobin ointment.

ACETIC ACID. Feliciani (*Riforma med.*, 1894, No. 267) in discussing the "Use of Chrysarobin in the Treatment of Psoriasis," highly recommends acetic acid as an adjuvant on account of its keratolytic properties. He neglects, however, to mention the proportions employed by him.

GREEN SOAP was, on account of its strongly alkaline reaction, formerly regarded as an incompatible of Chrysarobin. But Dreuw (loc. cit.) proved not only the groundlessness of this idea but also that green soap, when added to a chrysarobin ointment, renders the latter more active. Dreuw's ointment is described above, under the heading of ointments. Green soap acts as a solvent of the horny layer and the masses of scales and thus enables the chrysarobin to penetrate easily to the epidermis and dermis.

### INDICATIONS.

Chrysarobin is generally admitted to be the best remedy we possess for the treatment of

Psoriasis.

The therapeutic effects of the drug produce brilliant results in certain dry forms of

Chronic Eczema.

Chrysarobin is of undoubted value in

Dermatitis Seborrhœica (Dry type).

Eczema marginatum.

Lichen ruber hypertrophicus.

Lichen serophulosorum.

Lupus erythematosus.

Lupus vulgaris.

Favus.

Tinea capitis et corporis.

Tinea versicolor.

Pityriasis rosea.

Scleroderma.

Vitiligo.

Melanoderma (of epithelial origin).

Chrysarobin is also of use in the local treatment of certain syphilides, which persist in spite of intense general medication.

### CONTRAINDICATIONS.

As a powerful local irritant and stimulant, chrysarobin should not be used in

Acute inflammatory conditions.

As a reductant of exceptional activity, the drug is contraindicated in the treatment of

Surfaces denuded of epidermis.

On account of its staining property and the great danger of conjunctivitis, chrysarobin should not, generally speaking, be applied to

The face.  
The scalp.  
The hands.

If used on the face, the drug should be applied either in traumaticine or in the form of a paste pencil. In the latter case, the area treated should at once be covered by a zinc oxide plaster or collodion. This also applies to the use of chrysarobin on the scalp, where, in the case of children, a cap should be constantly worn. When used on the hands, gloves must be worn.

On account of the normally alkaline secretion of:

The inguinal region,  
The external genitalia,  
The axillæ,  
The surfaces between the toes,  
The surfaces beneath the mammæ in women,

chrysarobin usually produces a more or less violent inflammatory reaction on these parts of the body surface and hence must be used with caution.

CHILDREN do not as a rule tolerate chrysarobin well and hence the drug should always be used on a small surface as a test, before being applied to larger areas. This, in fact, is a good precautionary measure in all patients unknown to the physician, on account of the comparative frequency of idiosyncrasy to the remedy.

NEPHRITIS in any form constitutes an *absolute* contraindication to the use of chrysarobin. There are no exceptions to this rule and to ignore it may result fatally to the patient. Even in the case of patients with apparently normal kidneys, the urine should be examined frequently for albumen, casts and blood, and the use of the drug discontinued at the first sign of renal irritation.

ANÆMIA. While psoriasis is rarely seen in debilitated patients, the destructive action of chrysarobin upon hæmoglobin constitutes a contraindication to the use of the drug on anæmic patients.

HYDROTHERAPY should form part of the preparatory treatment but if alkaline baths be given during the time chrysarobin is used, the oxidation of the drug will be accelerated and a rubefacient action produced. If rubber be used to cover a surface treated with this remedy, blisters and pustules may occur.

IDIOSYNCRASY to chrysarobin is not rare. It is frequently seen in in-

dividuals who perspire easily and profusely and also in those who react violently to all cutaneous irritation—the urticarial type. Some patients, who in all other respects are apparently quite normal, will show a dermatitis after even very weak chrysarobin applications. In other patients, similar small doses externally may cause grave toxic symptoms from absorption through the skin. According to von Zumbusch (*Therap. der Hautkrankheiten*, p. 65) great care is necessary in prescribing chrysarobin for the cutaneous diseases of children, as the latter tolerate the drug badly.

**TOLERANCE.** In those patients who react normally to chrysarobin applications, a certain degree of tolerance is soon established. Then the effects of the drug are less marked and its dosage must be increased or it must be used in combination with one or more adjuvants. Such tolerance is probably due to the reductant action of the drug upon the skin, with consequent diminution in the power of absorption from the surfaces treated.

### TOXICOLOGY.

**INTERNAL ADMINISTRATION.** Wilcox (*Materia Med.*, 7th ed., p. 434) states that chrysarobin acts as an irritant to the gastro-intestinal tract, producing copious, watery, brownish colored stools and repeated vomiting. Hare (*Therapeutics*, 13th ed., p. 193) claims that vomiting may result from absorption of the drug through the broken cuticle. Godart (*Ueber Chrysarobin oder Chrysophansäure des Handels*, *Monatsh. f. prakt. Dermat.*, 1888, vii, p. 381) has seen dogs die in 2 to 3 hours with vomiting, diarrhœa and dyspnœa, after receiving intravenously, 25 to 30 milligrams pro kilogram of body weight of chrysarobin. According to H. C. Wood, (*Therapeutics*, 14th ed., p. 600) doses of from 6 to 8 grains are sufficient to produce violent toxic symptoms in man. He quotes Weyl as having proved that chrysarobin is an active irritant poison and hence should never be used internally.

Friederich (*Ueber Chrysarobinvergiftung bei interner Anwendung*, *Med. Klin.*, 1908, No. 49) describes the cases of three boys in the Strassbourg Hospital who each received, owing to a mistake of the apothecary, a considerable dose of chrysarobin. One hour later, all three children began to vomit. The prompt use of the stomach pump and of clysters served to remove the greater part of the drug, and beyond finding chrysophanic acid in the urine of one of the children, no further serious results were noted. With a view of avoiding in future, similar mistakes, Friederich urges that chrysarobin be classed as an active, irritant poison and be kept and handled as such by all chemists.

**CHRYSAROBIN NEPHRITIS** is a prominent and extremely grave symptom of the toxicology of the drug, whether taken internally or as a result of absorption from the skin. The drug when absorbed is excreted by the kidneys as chrysophanic acid, after having undergone oxidation

in the body. This process of oxidation is accompanied by a certain amount of destruction of the red blood corpuscles, and their hæmoglobin. Chrysarobin is an active renal irritant which may cause albumenuria, hæmaturia and renal hæmorrhages. Cushny (Pharmacology, 2nd ed., p. 98) states that in animals with chrysarobin nephritis the renal epithelium has been found to be necrosed, while the glomeruli are less frequently affected. Winkler (Ueber die toxische Wirkung des Chrysarobins auf die Nieren und seine Ausscheidung, *Korrespondenzblatt f. Schweiz. Aerzte*, 1907, No. 18) appears to regard the danger of chrysarobin nephritis as exaggerated and states that, after a careful search of the literature of this subject, he was able to find very few positive facts to show that chrysarobin is a renal irritant. Winkler then makes the astonishing statement he was unable to produce a chrysarobin nephritis in rabbits, even after long continued use of large doses. I mention Winkler's article only for the sake of completeness. It is hardly necessary to state that his ideas are unacceptable. Volk (Schwere Nierenerkrankung nach aeusserlicher Chrysarobinapplikation, *Wien. klin. Wchschr.*, 1906, No. 19, p. 1194) reports the case of a man who entered the hospital on account of chronic parenchymatous nephritis. The urine became red on the addition of alkalies and then formed a red precipitate on heating, thus proving the presence of chrysophanic acid. The skin showed a condition which suggested dermatitis exfoliativa but which was not the original malady. During the latter, the kidney trouble had begun. While under treatment by Volk, the patient had several renal hæmorrhages, apparently without cause. The skin gradually became normal but the nephritis persisted, the urine continuing to show the presence of chrysophanic acid, although neither this drug nor chrysarobin had been given to the patient during his 8 weeks' stay in Volk's service. Volk believes the condition to be the result of the prolonged external use of strong chrysarobin applications.

#### CHRYSAROBIN DERMATITIS.

As a cutaneous stimulant, chrysarobin causes an erythema of the normal skin around the affected areas treated. This may be said to occur in each case where the drug develops its full therapeutic effects. The extent of the erythema is comparatively slight when fixed applications are employed—plasters, traumaticine, collodion and gelatine—but always considerable when ointments, pastes or solutions are used, owing to the friction of the clothes or dressings, rubbing the drug into areas of healthy skin. When a large number of patches are treated by applications of a chrysarobin ointment, the resulting erythematous areas may be so extensive as to coalesce and constitute a universal dermatitis, with fever and grave general symptoms. When strong proportions of chrysarobin are used on even comparatively small areas of psoriasis, overstimulation by the drug may cause not only a dermatitis but at times, according to Neisser (loc.

cit.), the appearance of new and much more extensive psoriatic lesions.

Chrysarobin dermatitis may appear as a well-marked erythema which, if treated at once, is easily and quickly cured. The process, if more severe, will show vesicles or a more or less extensive cutaneous œdema. A still more serious form is that which is characterized by the appearance of myriads of acne-like pustules, resembling those caused by tar. These pustules may, according to Paschkis (Lesser, *Encyklopædie der Hautkrankheiten*, p. 70) assume the character of furuncles in some patients, while von Zumbusch (*Therapie der Hautkrankheiten*, p. 65) mentions that necrosis of the skin may occur.

Aldersmith (Ringworm and Alopecia Areata, p. 166) observed pustular eczema of the scalp with marked and painful swelling of the adjacent glands, headache and fever, in children who had been treated with Goa powder for tinea capitis.

L. Brocq (Chrysophanic Acid in the Treatment of Psoriasis, *Journ. Cutan. Dis.*, lv, 1886, p. 25) saw, in 1880 and at the Hôpital St. Louis, a man die as a result of applications of very large doses of chrysophanic acid. The patient showed a very intense general erythema with severe toxic symptoms. The same writer also observed, in the service of Dr. Vidal, a case of general exfoliating dermatitis with high fever of two months' duration, which had been caused in the same way. He cites these to show the importance of testing on small areas the susceptibility of the patient to the drug, before applying the latter to extensive surfaces.

Attention is again directed to the fact that people who perspire freely or whose sweat has an alkaline reaction are very prone to develop a severe dermatitis after the use of applications with even small proportions of chrysarobin. The reasons for this were discussed in the paragraphs relating to the chemistry of the drug.

**PROPHYLAXIS OF DERMATITIS.** This is best accomplished by carefully testing the susceptibilities of each patient in each case where extensive use of chrysarobin is contemplated and in employing the smallest possible percentage which is capable of producing the therapeutic effect, even though a longer period of time be required. The judicious use of adjuvants will also do much to diminish the danger of toxic symptoms from absorption. When very extensive surfaces are to be treated, not only must a very small percentage of the drug be used, but the whole affected area should never be covered at one time. Finally, it is well to explain to the patient the dangers in the use of the drug and to insist that he present himself for examination every third or fourth day.

**TREATMENT OF CHRYSAROBIN DERMATITIS.** The use of the drug should be stopped at once, as soon as the therapeutic action occurs and also when the usual simple erythema shows the slightest tendency to œdema, vesiculation or pustulation. Such of the drug as remains on the skin must be removed by gentle rubbings with oil or with vaseline—never with soap and water, which aggravate the inflammation. When the sur-

face is clean, a soothing lotion, followed by a dusting powder should be applied and the area protected by a light gauze and cotton bandage. Unna (*Chrysarobin. Monatsh. f. prakt. Dermat.*, II, 1883, p. 79) recommends sulphur baths, but I have not been able to find any other writers who have had good results with this treatment. Ledermann (*loc. cit.*) advises:

R	Sol. calcii bisulfurosi .....	40.0
	Ung. simpl. ....	20.0
	Lanolin. ....	10.0

Von Zumbusch (*loc. cit.*) states that an area of chrysarobin dermatitis when healed, may show a certain amount of pigment and gives this as a contraindication for the use of the drug on the face.

CHRYSAROBIN CONJUNCTIVITIS usually results from portions of the drug being rubbed into the conjunctiva from the fingers which have applied the medicament or scratched an affected area under treatment. The drug may also be transferred to the eyes through the medium of pillow slips or towels. Some writers claim that chrysarobin becomes more or less volatile from the warmth of the skin (Darier et Leistikow, *Thérap. des mal. de la peau*, p. 105; Jessner, *Dermat. Heilmittel*, p. 105. etc.) and that the resulting vapors alone may produce conjunctivitis. Trousseau (*Ann. de dermat. et de syph.*, 1886, May) believes that chrysarobin conjunctivitis results from an absorption of the drug into the blood, which carries the drug to the eyes. Stoeckhardt (*Arch. mens. de méd. et de chirurgie prat.*, 1886, No. 3) opposes this view, which he considers without clinical foundation. He believes the condition to be the result of direct contact of the drug with the conjunctiva and mentions that when patients who are being treated with chrysarobin wear gloves, conjunctivitis does not occur. He believes that areas on the scalp which are treated with chrysarobin-traumaticine should always be covered with zinc paste or varnish and thus prevent particles of the drug being carried to the eyes by the fingers.

Chrysarobin conjunctivitis is nearly always extremely painful, with burning sensations which may be almost insupportable and marked photophobia. There is also hypersecretion and great œdema of both eyelids and the adjacent skin. The secretion may, according to von Zumbusch, become purulent. While serious and permanent damage to the eyes is rare if treatment be begun at once, yet the condition causes much suffering and renders the patient unfit to work for a considerable time.

The treatment for this condition is that of other forms of conjunctivitis—rest in bed with a minimum of light, and the application of gauze and cotton pads soaked in ice-cold solutions of boric acid, and frequently changed.

Most important of all however, is the prophylaxis. This should consist of using chrysarobin only in such cases where its use is indispensable and then in the smallest proportions compatible with clinical action. The



ointment should be used on adults only, and then limited to cases where the lesions are too extensive to permit the employment of plasters. The patient should in all cases be expressly warned of the danger of conjunctivitis and advised to use rubber gloves when rubbing in the ointment or else to thoroughly scrub the hands and nails after rubbing in the salve with bare hands.

STAINING by chrysarobin varies greatly in degree with different individuals. It may be due, as Neisser (*loc. cit.*) suggests, to differences in the sweat secretion. Under the microscope, we find this staining only in the normal epidermis, where the horny layer is chiefly affected. The nails are stained a deep brown or violet and remain so for weeks or months. The hair, if black, becomes brownish violet, while blond hair may become almost green.

Patients who are receiving chrysarobin applications upon lesions on the legs or other remote parts, often show a darkening of the complexion which resembles sunburn or even, as Jessner (*loc. cit.*) mentions, a deep mulatto brown shade. I have seen this occur frequently when no suggestion of dermatitis or conjunctivitis could be found and can explain the discoloration only by assuming that it is caused by the vapors of chrysarobin set free by the body warmth and sweat, the vapors escaping by the opening of the clothing at the neck. Such facial discoloration quickly disappears when treatment is stopped.

Staining of the clothing, bed sheets and towels is a troublesome and, for the patients and hospitals, expensive disadvantage. When very weak ointments are used, the clothing is stained a light blue-grey, while stronger proportions of the drug produce violet or even deep purple shades. At Breslau, during my service, many efforts were made by the management to remove such chrysarobin stains from the patients' hospital clothing by means of various bleaching agents but without success, as the director of the Dermatological Hospital, Professor Neisser, issued instructions to have special suits of clothing and bed linen reserved for patients receiving chrysarobin. I well remember how each set of hospital clothing, after having been used successively by three or four patients, would become permanently brownish or bluish purple in hue and thus enable one to diagnose the patient's disease at a considerable distance. Chlorinated soda solution (Labarraque's) is said to quickly bleach out chrysarobin stains but it also acts destructively upon the fabric.

Potter (*Therapeutics*, 12th ed., p. 229) and Hare (*Therapeutics*, 13th ed., p. 193) recommend weak solutions of chlorinated lime for removing the discolorations from clothing and also from the skin.

Pinkus (*Psoriasis Med. Klinik.*, April, 1912, No. 17, p. 700) makes what seems to be a very good suggestion regarding the staining of the skin by chrysarobin. He advises, in order to avoid relapses, that the treatment be continued not only until the psoriatic area is free from scales, normal in appearance and white in color, but also until such areas are stained the same shade as the normal skin. This shade, when it ap-

pears on the site of a former patch of psoriasis, affords ocular proof that the horny layer has lost all trace of parakeratosis characteristic of the disease and is really normal, since, as Neisser has shown, only the healthy horny layer is colored by the remedy.

**PIGMENTATION CAUSED BY CHRYSAROBIN.** I would warn the reader against the use of chrysarobin fixed dressings (plasters, etc.) in treating patches of psoriasis on the face, the forehead, arms, neck and shoulders of women—particularly those who are predisposed to an excess of cutaneous pigment or who are pregnant. In such cases, the plaster or similar fixed dressing will not only cause a sharply defined, disfiguring and fairly durable patch of erythema and drug discoloration but permanent and conspicuous pigmentation may result. In such cases, the more diffuse action of an ointment or paste is to be preferred, for the body.

In conclusion, I would suggest that a printed slip with a text similar to that printed below be given to each dispensary or hospital patient who is receiving applications of chrysarobin.

#### INSTRUCTIONS TO PATIENTS USING CHRYSAROBIN.

The ointment which you are to use for your skin disease is very powerful in action and must be employed with great care.

It stains underwear, clothing, bed clothes and towels purple and this stain is extremely difficult to remove. Hence you should use only such old under-clothing, bed linen, etc., as you may feel able to throw away when your skin disease is cured. The ointment will also discolor your hair and your finger nails, if rubbed into them.

You should therefore buy a pair of rubber gloves and put these on before rubbing in the salve. If you use your bare hands, these must be thoroughly scrubbed in soap and warm water immediately afterwards.

If the least bit of the ointment be rubbed into your eyes, it will cause an extremely severe inflammation which will keep you from your work, cause you much suffering and oblige you to immediately call a doctor to treat you.

Do not keep this ointment where children can find it, as dangerous accidents might result.

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## SOCIETY TRANSACTIONS.

### NEW YORK ACADEMY OF MEDICINE,

#### SECTION ON DERMATOLOGY.

Regular Meeting, Feb 4, 1913.

WILLIAM B. TRIMBLE, M.D., *Chairman.*

#### LUPUS VULGARIS. Presented by Dr. KINGSBURY.

The patient, a man 31 years old, born in New York, was 8 years old when the disease was first noticed. It first appeared in the nose, destroying the septum. Three and a half years after the septum was destroyed, a

small nodule was noticed on the left lower side of the face. This nodule became larger and eventually broke down. In the meantime two small nodules appeared on the right side of the face near the nose. All healed in about a year. Three years after the disease appeared on the face, the nose began to swell, and became very large. The next spring the disease became active again on the nose and both sides of the face, but healed in about two or three months. The following Spring the disease became active again, also appearing on the lip. X-ray treatment was given once a week. On one occasion the reaction was so great as to cause a complete breakdown of the tissue of the nose and lip. The tissue was fairly healed in about 4 weeks and the treatment was continued. There were 15 to 20 exposures in all. Later, he had on an average of 8 treatments a month, for at least a year and a half, at the New York Hospital. The next Spring after the discontinuation of treatment, the lip and lower part of the nose became swollen and painful, and the tissue of the lip broke down, healing after 3 months.

This exacerbation was exactly the same in feeling and appearance as the severe X-ray reactions. That same year in November, the lip and nose swelled and broke down again, and the process was repeated in January of the next year. In May, 1910, it was found that the right nostril was perforated. X-ray treatment was resumed, on an average, two treatments a week, for about 6 or 7 months, but the condition grew worse. Upon application at the Finsen Institute in April, 1911, for treatment, he was told there was not very much lupus, but a bad case of X-ray necrosis. He began treatment, (Finsen Light) having one hour on each place, one place a day, until he had fourteen places treated, which covered all the diseased areas. Following a blow on his nose, the nose became very sore and broke down and the tip sloughed away. On continuing treatment he was given a half hour on each place. This he continued until he was cured. There was no trace of lupus on the 1st of April, 1912. In all, he believed he had about four or five hundred hours of light treatment which was all taken within a year. In the month of February, 1912, lupus was found in the hard palate; this was treated by electrolysis. He had 6 treatments and was cured, as far as could be seen. During this time the right side of the nose became worse. When the light treatment was discontinued in April, the corner of the nose was treated with 10% silver nitrate solution, and then with CO<sub>2</sub> snow, without benefit. The snow treatment increased the area affected.

DR. POLLITZER said that the lesion shown was probably an X-ray ulcer, and that it was advisable to leave it alone, at least for a long time. A plastic operation would probable be unsuccessful.

DR. MACKEE said that it was possible that the patient was suffering from a chronic ulcerative radiodermatitis and that the question of malignancy should be considered. For this reason he would advise thorough curettage, cauterization and, later, a plastic operation. It was a question, the speaker said, if some of the epitheliomata occurring in connection with lupus vulgaris might not be

partly if not wholly due to the habit of giving an unlimited number of treatments consisting of an unknown quality and quantity of the X-ray.

#### NÆVUS UNIUS LATERIS. Presented by DR. MACKEE.

Lester D., an unmarried man, 22 years of age, was from Dr. Fordyce's clinic. The family history was negative. The patient presented a band of pure white skin, about five inches wide, extending from the hair line on the back of the neck, over the right shoulder and down the right arm to the wrist. The hair in the affected region was white. There was no increased pigmentation along the borders of the lesion. The affection had been present since birth.

DR. POLLITZER said that he did not consider this a case of *nævus unius lateris*; that term was employed to describe a raised, warty, linear lesion. In this case the lesion was smooth and presented a congenital achromia or partial albinism which was often unilateral. The choice of a name would depend on the definition of the word *nævus*; if by it we mean any congenital malformation of the skin, it might be stretched to include a case like this, but Dr. Pollitzer saw no reason for using a term that had been given to an entirely different condition.

DR. OULMANN said that there were cases of flat *nævi unius lateris*, but that he regarded this case as a case of pigment atrophy or vitiligo.

DR. TRIMBLE agreed with the diagnosis of the exhibitor on account of the history, the presence of hair, the pigmentation, and the unilateral character.

#### DERMATITIS HERPETIFORMIS. Presented by DR. PAROUNAGIAN.

Mr. P., age 40, tailor, Bohemian, was from Dr. Pollitzer's clinic. The father died of tuberculosis. The mother was living; three brothers and two sisters were living and healthy. The duration of his skin affection was about one year. According to the patient's statement he had rheumatism, and shortly after he was better, his skin trouble appeared. Since his first attack, he had been free from the outbreaks only about two or three weeks at a time. The lesions were polymorphous, including grouped vesicles and bullæ, were intensely itchy, and involved almost the entire body. While some of the lesions subsided, new ones appeared, and the fading lesions left pigmented areas. He had no lesions on the mucous membranes.

DR. CLARK said that he had had a case of dermatitis herpetiformis which did badly on a purin-free diet but which improved rapidly on a milk diet. After 8 months of this treatment the skin was in perfect condition and remained so for several years, during which time the diet was restricted to milk and meat. It was apparently a case of intestinal auto-intoxication from abnormal carbohydrate digestion, as the patient was found to be able to take care of purins without discomfort.

DR. POLLITZER said that dermatitis herpetiformis was probably due to some kind of intoxication, but he had not found anything wrong in the digestive tract in this case. Last week he saw a patient, who, three years ago, was suffering from dermatitis herpetiformis, and who tried a complete change of life, going to a lumber camp, working with the men there, and drinking one to two gallons of water daily. The eruption disappeared under this treatment and had not reappeared.

DR. MACKEE said that he had treated a number of cases of this affection with high colon irrigations. The results were good but not as brilliant as were obtained in many cases of urticaria. In urticaria, prurigo and dermatitis herpetiformis, if the urine showed evidence of intestinal putrefaction he always advised intestinal lavage, and sometimes the irrigations proved very efficacious. In regard to diet, the speaker said that every case should be carefully studied before dietary advice could be advantageously given. This study should include the nitrogen elements, evidence of intestinal putrefaction, etc. In instances of intestinal putrefaction the fault might be with either the animal or vegetable food. Indican in the urine indicated putrefaction, but its absence did not mean that there were no poisonous products being elaborated by the intestines.

DR. LUSK said that these patients were usually the victims of auto-intoxication. He advised no change in diet except to diminish the quantity and to give much water. He had obtained good results from the use of turpentine and potassium chlorate as intestinal antiseptics.

DR. HEIMANN said that the preceding remarks about the causation of dermatitis herpetiformis by various types of auto-intoxication brought us around to the old theory of cutaneous reaction.

#### DERMATITIS FACTITIA. Presented by DR. PAROUNAGIAN.

Rebecca A., age 15, born in Russia, was seen about 3 weeks ago at the Gouverneur Clinic for the skin condition on her face, which had existed for a week.

The lesions were located on the right side of the face, bounded by a line drawn from the lobe of the ear to the tip of the nose, along the median line to the chin, and along the lower border of the inferior maxillary bone. The lesions, when first seen were large and irregular, about 15 all told, and did not resemble any of the elementary lesions; some were oblong, others oval. There were no vesicles, bullæ or crusts. They were rather reddish brown in color and appeared as if the horny layer was removed by the application of some chemical, probably phenol. The patient did not appear very intelligent, and a satisfactory history could not be obtained.

#### SARCOMA CUTIS. Presented by DR. TRIMBLE.

The patient was a woman, born in the United States. Prior to operation, the lesion had existed for 10 months and was located on the extensor side of the arm, about opposite the elbow joint. It greatly resembled an epithelioma from a clinical standpoint, had a characteristic rolled border, and at one edge there was a typical group of epitheliomatous pearls not as yet ulcerated. There was a sharply defined excavation about 2 inches in the long diameter and  $1\frac{1}{2}$  inches wide. Dr. Trimble had operated upon the patient and the growth was examined microscopically. One of the interesting features of the case was the microscopic slide, which did not seem to be at all characteristic of what one would expect to find in a case of epithelioma. The tissue had been examined at three different laboratories, one of which reported spindle-celled sarcoma; another embryonal epithelioma, and the third did not desire to give a positive opinion but thought that the lesion resembled a round-celled sarcoma. The growth had been excised with apparently a beautiful result, but 3 months after operation, a

recurrence was noted in the form of two small, waxy lesions at one end of the cicatrix. A second operation had been performed, the line of incision going far out into the healthy tissue. This second operation had been followed by twenty X-ray exposures. For 7 months after the second operation, the result seemed good, but in the last few days the second recurrence had been noted by the appearance of a small nodule the size of a split pea, about one inch from the site of the cicatrix. The patient's urine contained  $3\frac{1}{2}\%$  of sugar. There were no other abnormalities. Photographs before and after operation, one showing recurrence, and pathological specimens were exhibited.

DR. POLLITZER advised against amputation. If metastases had already occurred, it was too late to operate, while if the disease was still local, the wide removal of the tumor alone would be sufficient.

DR. CLARK advised amputation, as the case showed a tendency to recur after free excision, and will probably recur again after any operation less radical than amputation of the shoulder.

DR. LUSK also advised against amputation; he would curette and apply arsenical paste.

DR. MACKEE agreed with Dr. Pollitzer that it would be unwise to amputate the arm. He would suggest that the recurrence be excised and then the entire arm, including the axillary glands, be vigorously treated with a well-filtered X-ray.

#### SEBORRHOEA OR PITYRIASIS ROSEA (?). Presented by

DR. MACKEE.

Thomas B., aged 24 years, born in England, unmarried, occupation, waiter, was from Dr. Fordyce's clinic. The patient presented an eruption of 3 weeks' duration which was located on the chest, back, abdomen, arms and legs. The eruption began as solid macules which soon became circinate, with rose-colored borders and fawn-colored centres. There was no history of a primary plaque. There was considerable pruritus. Scattered over the affected regions was a diffuse dermatitis with redness and scaling. This, the exhibitor thought, was due to the application of sulphur ointment.

#### LICHEN PLANUS ANNULARIS. Presented by DR. BECHET.

M. C., aged 25; about one year ago a ringlike eruption began on the left side of her chest; a similar lesion soon appeared on the abdomen, followed by a group of lesions on the left arm and right leg. She stated that the eruption, when it first began, assumed the same appearance it had at the time of presentation. The patch on the chest had doubled in size since the onset of the eruption, the other lesions having remained the same. They gave rise to few or no subjective symptoms. The lesions consisted of raised, flat, darkish red papules, with shiny surfaces, arranged in annular and gyrate formation.

#### TUBERCULIDE IN AN INFANT. Presented by DR. MACKEE.

This case was presented by Dr. Fordyce at the December, 1912, meeting of the New York Dermatological Society (Jour. Cutan. Dis., June, 1913, p. 416).

DR. CLARK said that the lesions were superficial, not deep, as in necrotic granuloma, and that, as there were no deep scars, it was probably lichen scrofulosorum.

DR. POLLITZER thought this was a case of lichen cachecticorum. In papulo-necrotic tuberculide, the papules were sub-epidermic in their origin, which was not the case here, where all the lesions were superficial and evidently follicular. A follicular lesion, if infected, might leave scars as deep as any found in this case.

#### TUBERCULIDE. Presented by DR. HEIMANN.

This patient from Dr. Pollitzer's clinic, was presented by Dr. Paroungian, Dec. 3, 1912. There had been marked improvement under the use of tuberculin, but a fresh outbreak had occurred within the past few days.

DR. S. STERN said that he had seen this case 4 years ago at the Mt. Sinai Dispensary in Dr. Lustgarten's service. At that time, all the lesions healed under treatment with tuberculin. A year later the patient was sent to Dr. Lustgarten from the Vanderbilt Clinic with a note from Dr. Jackson, stating that the lesions had improved under tuberculin but that the lymphatic glands had become enlarged. Dr. Stern said that this enlargement of the glands disappeared under X-ray treatment, and that the case was only for this reason treated by X-ray.

DR. MacKEE said that he had been employing tuberculin in cases of tuberculides, scrofuloderma, lupus erythematosus, lupus vulgaris and Bazin's disease at Dr. Fordyce's clinic for over five years. Good results had been obtained in every case of erythema induratum, in many cases of lupus vulgaris and scrofuloderma, but he had never been able to even improve a case of tuberculide or lupus erythematosus by this treatment. At first, the speaker had several cases of tuberculide and lupus erythematosus that seemingly underwent a remarkable improvement, but it was soon found that this relief was spontaneous, for the disease disappeared and recurred repeatedly in spite of most painstaking tuberculin treatment. On the other hand, the cases of lupus vulgaris and erythema induratum improved progressively until cured and remained well since. In regard to the tuberculin preparation employed, the speaker said that he had used the bacillus emulsion. It was the consensus of opinion among those who had had the most experience, that it made no difference what reliable preparation was used.

DR. CLARK said that he had seen improvement in three cases of papulo-necrotic tuberculide under treatment with tuberculin. Sometimes they did badly, but if treatment was stopped and after an interval begun again with a greatly reduced dose, which was then increased more slowly than before, improvement resulted.

DR. POLLITZER said that he could see no theoretical indication for the treatment of the toxi-tuberculides with tuberculin but he had tried it in this case with apparent benefit, though relapse had followed the temporary improvement.

#### TUBERCULOSIS VERRUCOSA CUTIS. Presented by DR. TRIMBLE.

The patient was a man, 45 years of age. The lesion had existed for 11 years; it was situated on the dorsum of the left hand, and palmar surface of the left thumb. It was warty and infiltrated, had a sharply defined border, and was the size of a silver dollar.

#### CASE FOR DIAGNOSIS (LEUKÆMIC TUMORS?). Presented by DR. BECHET.

This patient, from the service of Dr. Kingsbury, and shown with his kind permission, was 56 years old. Four and a half years ago he first

noticed a brownish, hypertrophic papular lesion near the end of the nose; four or five months later, similar lesions appeared on left cheek next to the nose; these lesions attained the appearance seen on presentation, in about one year. The thickened, infiltrated, raised, pigmented plaques on the cheeks began 3 years ago. He presented large, hypertrophic, lobulated masses on both cheeks next to the nose, and much more marked on the left side; the end of the nose was also involved. On firm pressure, sebaceous matter could be squeezed from the enlarged mouths of the follicles, scattered over the tumor masses. The plaques, from one-half to over one inch in diameter, were raised and infiltrated, and showed some central atrophy. They were scattered over the cheeks between the malar region and the rami of the lower jaws. There were no subjective sensations. An oily seborrhœa of the face existed, and large comedones, scattered over the cheeks, were discernible. The patient was seen by the speaker 2 years ago, and the only change since that time had been an apparent tendency toward involution of the plaques. The hypertrophic masses had remained the same. A biopsy will be made and the result reported at the next meeting of the Section.

Dr. HEIMANN said that he had seen at Professor Riehl's clinic at Vienna, a cast of a case of myelogenous leukæmia with similar lesions on the face, but more distributed. He believed that this case was figured in Jacobi's Atlas. The only other diagnosis which occurred to him was endothelioma.

Dr. OULMANN said that some of the lesions reminded him of botryomycosis spuria, an article on which appeared in the *Münch. med. Wochenschr.* of this year, but that the condition seemed to be of infectious granuloma nature, the cause of which would have to be investigated by further examination.

Dr. POLLITZER said that the flat plaques were very puzzling. The whole picture suggested a diagnosis of leukæmic tumors, but in that disease the lesions were usually widely distributed, and it was difficult to accept the patient's statement that the prominent tumors had been preceded by the discoidal plaques. Only a biopsy could clear the diagnosis, and meanwhile a differential blood count should be made.

#### SYCOSIS VULGARIS TREATED WITH STOCK STAPHYLOCOCCIC VACCINES. Presented by Dr. MacKEE.

A. S.; male; age, 37; born in Russia; married; occupation, carpenter; from Dr. Fordyce's clinic.

The first lesion developed on the right cheek 2 years ago. Follicular pustules soon appeared over both cheeks and the chin. When the patient first came under observation at the clinic, there were discrete follicular pustules scattered over both cheeks, associated with considerable perifollicular inflammation. On the chin the pustules were confluent.

The vaccine treatment was begun on July 22, 1911. The first dose consisted of 25 million bacteria. One injection was given each week for 6 weeks, the dose being gradually increased to 400 million. He was entirely free of lesions on Sept. 7, 1911 and there had been no relapse. No other treatment was allowed during the administration of the vaccine.



EPITHELIOMA. Presented by DR. WILLIAMS.

The patient is an unmarried negress about 25 years old. About 7 weeks ago, she noticed a papule at the right angle of the mouth, which soon formed a small tumor. This had increased rather rapidly, forming a mass about three-eighths of an inch in diameter, and raised about one-eighth of an inch above the level of the skin. The surface was uneven and was broken by cracks which extended nearly to the base. It was pink in color when the scab was removed, and bled easily. The Wassermann reaction was negative. Cultures from the surface under the scab showed quantities of most of the bacteria occurring in the mouth. The report of the microscopic examination was epithelioma.

DR. BECHET reported that the case presented by him in January as erythema multiforme bullosum was now developing large bullæ arising from an uninfamed base, and that Dr. Pollitzer was probably right in regarding the case as one of pemphigus.

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## REVIEW

OF

## DERMATOLOGY AND SYPHILIS.

Under the direction of

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## DERMATOLOGISCHE WOCHENSCHRIFT.

(May 3, 1913, lvi, No. 18.)

Abstracted by FRED WISE, M.D.

CONTRIBUTION TO THE CLINIC AND HISTOLOGY OF LICHEN VARIEGATUS OF CROCKER (PARAPSORIASIS LICHENOIDES, BROCC). D. D. LEWTSCHENKOW, p. 501.

Within the last 20 years, cases have been reported by numerous authors, of diseases having a place midway between lichen planus and psoriasis on the one hand, and seborrhæic eczema on the other; these diseases have been characterized

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by redness of the skin and more or less sharply defined scaling; most of them showed only slight infiltration of the efflorescences, almost complete absence of subjective symptoms, occurring chiefly in the young, the patients being otherwise in good health; the course was very slow and there was but little tendency toward healing.

The author reviews, in a concise manner, the literature of the entire involved subject, beginning with the first description of the disease in 1890, by Unna, Santi and Pollitzer, and ending with the case report and discussion of the disease in 1912, by Hodara. The confusion which exists in regard to the proper place which lichen variegatus holds in dermatology, may be appreciated by a perusal of the following list of designations, which some authors contend are applied to various stages of one and the same disease entity:

- Parakeratosis variegata, (Unna, Santi, Pollitzer).
- Psoriasisiform and lichenoid exanthem, (Jadassohn).
- Dermatitis psoriasiformis nodularis, (Jadassohn).
- Pityriasis lichenoides chronica, (Jadassohn).
- Erythrodermie pityriasique en plaques disséminées, (Brocq).
- Lichen variegatus, (Crocker).
- Resistant maculo-papular scaly erythrodermia, (Fox and MacLeod).
- Disseminated scaly erythrodermia, (Török).
- Parapsoriasis en gouttes, }
- Parapsoriasis lichénoïde, } (Brocq).
- Parapsoriasis en plaques, }

In two cases of pityriasis lichenoides chronica, Civatte found evidence of a tuberculous granuloma in the upper layers of the corium, with typical epithelioid and some giant cells in the mid-portion of the infiltrates and mononuclear round cells in the periphery. Civatte's findings have been corroborated by Milian, Pinard and Verrotti. Civatte believes that pityriasis lichenoides is closely related to the cutaneous tuberculides; he does not include the lichenoid form of the disease in the parapsoriasis group, but believes that it belongs in the class with idiopathic atrophies, prefungoid erythrodermias and xantho-erythrodermia perstans, the last described by Crocker in 1905. In a case of parapsoriasis en gouttes, Milian found a histological picture, closely resembling that of lupus vulgaris.

The term "parapsoriasis" unquestionably can not be applied to all these types of the disease, as even Brocq admits. Until a greater conception of the disease is acquired by further research, the proper nomenclature will remain undecided; to the author, a name which conforms with the clinical appearance of the disease, without reference to its nature or probable causation, is for the present, the most preferable; such designations are pityriasis lichenoides chronica, lichen variegatus and erythrodermie en plaques disséminées.

Following this discussion, the author describes one of his cases in great detail. The histological examination revealed changes exclusively in the epidermis and the papillary layer. The character of these changes was, in general, uniform throughout, but its intensity varied considerably in different stages of the lesions which he examined.

*(To be continued.)*

### CONCENTRATED INTRAVENOUS SALVARSAN INJECTIONS. ARTHUR STRAUSS, p. 512.

1. These injections are more applicable to neosalvarsan than to the older remedy. The latter should not be used in concentrated form.

2. The neosalvarsan is dissolved immediately before injection, in sterile, distilled tap-water.

3. The advantages of this method are, that the factor of "water-errors" is reduced to a minimum; the solution is less liable to contamination from various

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containers, etc., and from the rubber tube and exposure to the air; the time of administration is greatly lessened.

4. Any ordinary needle may be employed.

5. The therapeutic results equal those following the infusions and the after effects seem to be decreased.

(*Ibidem*, May 10, 1913, lvi, No. 19.)

### THE PASSING OF PARASYPHILIS. S. POLLITZER, p. 525.

In this timely article, the author calls attention to the far reaching results of Noguchi's discovery of the spirochetes in the brain of paretics. Sixty years ago, Romberg, Duchenne and Wunderlich showed the frequent association of tabes and syphilis; at the end of the seventies, Fournier published statistics showing conclusively, the syphilitic origin of the disease. Since that time, two different views were held as to the origin of tabes; the school of Fournier and Erb contended that the disease was caused by syphilis, while the followers of Charcot, Westphal and Leyden would not ascribe to syphilis the occurrence of tabes. In 1880, Mendel published a monograph showing the relation between progressive paralysis and syphilis. Later, the theory that the two nerve diseases were results of para- or post-syphilitic processes gained almost universal belief. The discovery of the organism of syphilis in the brain of paretics has settled all doubts as to the true ætiology of the diseases of the brain and spinal cord; paresis has been proven to be syphilis of the brain.

Of 200 cases of paresis, Noguchi found spirochetes in 25%; this proportion will no doubt be greatly increased when the staining technique is improved. In the majority of the positive cases, it was found that the duration of the disease was short, a fact which may tend to corroborate the view that nerve tissues are not a favorable soil for the organisms and that they soon die out. In lepra, this is known to be the case; for in that disease, the nerves themselves are invaded by the bacillus lepræ, which, however, soon disappears, leaving behind an interstitial and parenchymatous degeneration of the affected nerves.

The author believes that the discovery of the spirochetes in cases of recent tabes is simply a matter of time; that in tabes of short duration, in which the patient had succumbed to some intercurrent disease, the microorganism of syphilis will be found to exist in the spinal cord. The various symptoms of tabes may be ascribed to the presence in the cord of the spirochetes, causing the formation of connective tissue, with subsequent scarring.

The lesson to be drawn from Noguchi's discovery is, first and foremost, that the patient with syphilis should be treated at the earliest possible moment, before the organisms have had time to become disseminated in the various tissues of the body, including the nervous system.

### CONTRIBUTION TO THE CLINIC AND HISTOLOGY OF LICHEN VARIEGATUS OF CROCKER (PARAPSORIASIS LICHENOIDES, BROCC). D. D. LEWSTCHENKOW, p. 528.

(*Concluded.*)

A very complete histological study of the different forms of efflorescences in the author's case of lichen variegatus is submitted in this instalment. He made studies of a fresh, primary lesion, a mature, papular element, an involuting lesion, in the regressive stage, etc. Clinically, the differential diagnoses are discussed, in comparing the appearance of lichen variegatus with syphilis, mycosis fungoides, lichen planus, lichen scrofulosorum, psoriasis guttata, pityriasis rosea, seborrhœic eczema, erythrodermie pityriasique en plaques disséminées, pityriasis lichenoides chronica. As to the last, the two diseases have a great

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many points of resemblance to one another. The appearances of the efflorescences, their development and the characters of the histological changes are the same in both. They differ, however, in their manner of grouping; in lichen variegatus, the elements always have a tendency to confluence, giving the affected skin a reticulated, net-like appearance; while in pityriasis lichenoides chronica, the lesions may lie very close to each other, yet there is no tendency to coalescence and no reticulated appearance. Recently, however, several authors have described cases of pityriasis lichenoides chronica in which such a tendency to confluence does appear; it may be that the two types are merely transition stages of one and the same disease.

The comparison of the histological findings in the various stages showed that the changes in the epidermis were markedly secondary in nature, while the primary changes were found in the upper layers of the corium, where the dilation of the blood vessels was marked in the earliest stages of the disease. No evidences of tuberculosis, either in the skin or in the internal organs, were found.

### JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE.

(June, 1913, xiii, No. 6.)

Abstracted by FRED WISE, M.D.

#### STUDIES OF THE TRICHOPHYTIES IN JAPAN. F. KUSUNOKI, p. 431.

The paper deals with 26 cases of trichophytic disease of the scalp, one of the skin and 5 cases of eczema marginatum, in one of which there was an associated tinea of the nails. Cultures made from the scalp cases demonstrated the existence of two species of tinea: trichophytum violaceum and trichophytum acuminatum. The former proved to be chiefly of the ectospore variety, the cultures showing also chlamydospores and spindle spores. The mycelium occurred in long filaments. The fungus was of the megalospore variety of tinea. The second variety was in most respects similar to the first, save that the mycelium was somewhat narrower. In the cases of eczema marginatum, the author found the trichophytum acuminatum to be the causative factor of the disease.

#### CONCERNING ORGANIZED SYPHILITIC PAPULES. S. HANAWA, p. 457.

The author's report concerns a man of 44, in whom indurated, dark brown papules had existed for two years on the commissures of the mouth, at the alæ nasi and within the nostrils. In the preceding two years, he had had papules in the auditory meatus and on the anus, which had disappeared under mercurial treatment. The Wassermann reaction was positive and Hanawa succeeded in demonstrating the presence of spirochætæ in the secretion from the papules and in the microscopic sections of the tissues.

#### THE RELATION BETWEEN INTESTINAL AND SKIN DISEASES. S. YAMADA, p. 470.

The article deals with a recurring erythemato-vesicular eruption in a child of 8 months, suffering also with a mucous colitis. Repeated lavage of the intestines resulted in a cure of the obstinate dermatosis.

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## DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(May 1, 1913, xxxix, No. 18.)

Abstracted by CLARENCE ALLEN BAER, M.D.

### CONTRIBUTION TO THE MODIFICATION OF THE WASSERMANN-NEISSER-BRUCK REACTION ACCORDING TO M. STERN. LEO QUADFLIEG, p. 847.

The author considers the Wassermann reaction according to modifications made by Stern, and concludes that sera should be inactivated, because mistakes happen in unactivated sera. This he claims is very important, because otherwise the test is not reliable. By the use of an active serum the entire reaction is too unstable, so that positive reactions might be possible in sera from other diseases than syphilis. It is most unusual in the inactivated sera to get a case of active syphilis that does not give the reaction. In such a case both active and inactive serum should be used, so as to determine the efficacy and the reliability of the test.

### HERPES ZOSTER FRONTALIS WITH DISCOVERY OF BACTERIA IN THE GASSERIAN GANGLION. ARTHUR SUNDE, p. 849.

The author gives a short resumé of the history of the pathogenesis of herpes zoster. Scheel and DeBesche could not find any bacteria in the spinal ganglion. Their search was made three to eight weeks after the herpes had appeared. It is possible that bacteria disappeared very rapidly from the central nervous system and, therefore, none were found. Three weeks after the outbreak of herpes, Magnus was able to find many streptococci in the anterior gray horn of the spinal cord, while in spite of many diligent searches no organisms were found in the spinal ganglion infected. Magnus claims that microbes first infect the spinal ganglion and then follow the lymph stream to the spinal cord. Therefore, it ought to be possible to find the bacteria in the spinal ganglion only during an acute outbreak of herpes, but only occasionally could such a case be examined microscopically.

Sunde then relates in detail a case of herpes frontalis in a man aged 81 years. The patient was slightly demented. On Jan. 5, 1912, typical herpes zoster appeared on the right half of the forehead and right upper eyelid. The eruption spread rapidly across the vertex, covering almost half of the right side of the head. The patient died of broncho-pneumonia. There was a general senile atrophy of all the organs and very extensive arteriosclerosis. Nothing abnormal was found in the brain. The Gasserian ganglion was removed on both sides; the right was swollen to about twice the size of the left. By careful section into the right ganglion, hæmorrhage in the interior part, where the ophthalmic nerve leaves the ganglion, was seen. Microscopical examination of the ganglion showed active inflammation with multiple small hæmorrhages, hyperæmia and round cell infiltration in the area around the ganglion, with round cells between some of the nerve fibers and a sticky fibrino-purulent exudate. In all the sections of the ganglion were seen many gram positive cocci, mostly diplococci, but some also in small chains. The organisms were particularly numerous in the hæmorrhages and in the small blood vessels around them. The left ganglion was microscopically and macroscopically normal.

The author concludes that the discovery of bacteria in the spinal ganglion in herpes zoster has not, to his knowledge, been published, although various bacteria have been found in cultures of the cerebro-spinal fluid in cases of herpes zoster. These bacteria in the spinal fluid might possibly have been introduced by manipulation and inaccurate technique.

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### CONCERNING THE FREQUENT APPEARANCE OF EXANTHEMATA AFTER THE USE OF BALSAM OF COPAIBA. W. FISCHER, p. 850.

The recognition of exanthemata due to the use of drugs is very important. Five different erythemata are classified by the author as being produced by balsam of copaiba. First, erythema resembling roseola or a measles rash. This appears on the inner surface of the extremities, on the wrists, knees and around the ankles. Occasionally in the scarlatiniform variety the eruption is universal and accompanied by fever. Histologically, there is a small cell infiltration around the blood vessels, sebaceous and sweat glands and hair follicles. Second, an urticaria and vesicular form, resembling pemphigus. Third, a papular erythema which develops from a diffuse erythema and resembles a syphilide. Fourth, an eczematous eruption in which small pinhead sized vesicles are present upon reddened and swollen skin. Fifth, hemorrhages with or without erythema. In all these varieties itching and burning are slight and fever is occasionally present.

Symptoms accompanying these eruptions are nausea, vomiting, colic, burning in the urethral canal and occasional hamaturia.

(*Ibidem*, May 8, 1913, xxxix, No. 19.)

### CONCERNING INFECTION FROM THE MILK OF SYPHILITIC WOMEN.

T. UILENDUTH AND P. MULZER, p. 879.

The authors state that up to the present time no one has shown spirochæta pallidæ in the milk of syphilitic women; also no animal experiment with the view of showing infection from the milk of syphilitic women has as yet been successful. The authors have succeeded, in two cases, in producing syphilitic lesions in the testicles of rabbits, by the injection of milk of syphilitic nursing women, in which milk, however, no spirochæta could be demonstrated microscopically. A technique was carefully followed in securing the milk by means of a hypæremia glass and 1 to 2cc. was injected in each testicle of the rabbit. In some cases the blood of these women was also inoculated into the rabbits in the same way.

The authors then give in detail their results. They have shown conclusively that the milk of a mother without symptoms, but who had a syphilitic child, contained active syphilitic virus, shown by the production of spirochæta in the testicle of the rabbit. Similarly, the milk of a woman with manifestations of general syphilis also contained the spirochæta, which reproduced themselves in the rabbit's testicle. The experiment was successful in two cases out of seven, so we much conclude that the milk of syphilitic women might be infectious under certain circumstances.

### THE OCCURRENCE OF CHICKEN-POX IN ADULTS. PAUL KRAUSE, p. 881.

The author has seen 4 cases of chicken-pox in adults. The histories of the cases are given in detail.

(*Ibidem*, May 15, 1913, xxxix, No. 20.)

### TREATMENT OF PSORIASIS WITH THORIUM X. F. GUDZENT AND WINKLER, p. 925.

Knowing the dangers of large doses of thorium X, the authors used 0.02 to 0.08 mg. intramuscularly at intervals of one week. The number of injections given was 2 to 5 to 10, depending on therapeutic effects. Injections were made at points where there were lesions, although the lesion so injected did not react differently than the other lesions. Thirteen cases were treated—12 psoriasis and 1 chronic eczema; 2 cases were eliminated because of insufficient treatment. They were all recurrent cases. The cases had been treated by all known methods. The conclusion drawn is that thorium X has not shown itself to be the method of

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preference for psoriasis treatment, but where all other methods of treatment have failed, thorium X should be tried.

CLINICAL EXPERIENCE WITH EMBARIN. H. SOWADE, p. 932.

Embarin is a mercury preparation containing a 3% mercury solution with the addition of  $\frac{1}{2}\%$  akoin. It is chemically nearly like mercury salicylate, only it contains one sulphuric acid radical in addition. It is an easily soluble and almost non-irritating preparation; 123 cases were studied; 15 injections were given as an average. The first 6 or 8 were given on successive days and the remaining injections every other day. The conclusions drawn are that embarin is an efficient antisyphilitic preparation; the injections are painless; an energetic series of treatments can be given in 3 to 4 weeks; if untoward symptoms (fever, chills, dizziness, vomiting or collapse) occur, the use of embarin should be abandoned.

(*Ibidem*, May 22, 1913, xxxix, No. 21.)

HISTOPATHOLOGICAL FINDINGS IN THE CENTRAL NERVOUS SYSTEM OF SYPHILITIC RABBITS. G. STEINER, p. 984.

Steiner demonstrated that inflammatory reactions take place in the connective tissue surrounding the blood vessels in the central nervous system of syphilitic rabbits. No primary degenerative changes were noticed, however. The inflammatory reaction appeared as a blood vessel infiltration in the capsules of the central nervous system, in certain spinal ganglion cell groups, and also as typical adventitial infiltrations in the gray matter of the cerebrum. A diffuse, perineural cell infiltration could be demonstrated in the perineurium in cross sections of the spinal nerve bundles of some of the animals. Cell infiltration was also seen in the peridural fat and between the convolutions. The infiltrating cells were typical plasma cell and lymphocytes. The more caudal parts of the spinal cord showed the most marked histopathological changes.

ANTILUETIN, A NEW PREPARATION FOR COMBINED TREATMENT. M. TSUZUKI, p. 985.

The author has experimented with several preparations for destroying the syphilis spirochætæ. The preparations tried were: 1, Stidio-kalitararicum, 2, Antimonyl-anilintartrate, 3, Antimonyl-ammoniumtartrate. The experiments were tried on rabbits that had been infected with syphilitic material. Experiments with these three preparations were fairly successful, but the author finally tried the preparation which he calls antiluetin, the chemical name for which is bitartrato-kalium-ammonium-antinonyde.

The author then goes on to relate the chemical properties of this substance in detail.

THE THERAPEUTIC EFFECT OF ANTILUETIN. M. TSUZUKI, K. ICHIBAGASE, H. HAGASHI AND HTANO, p. 988.

These four Japanese investigators report in detail their experiences with antiluetin in ten cases of syphilis. The antiluetin formula used was as follows:

Antiluetin, 2.5

Cocaine hydrochl., 2.5.

Aque dest., 100.0

Of this, 1.0 to 2.0 ccm. was injected subcutaneously. Injections were given on successive days and as many as 11 or 12 injections were given the patient. Antiluetin was given as high as 0.9 gram as a total.

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The conclusions drawn are, that antilueticin used either alone or in combination with the old antisyphilitic treatment gives excellent results as regards the healing of lesions. A dose of 0.75 gram of antilueticin is a dose therapeutica sterilisans magna. The nearer one gets to this dosage, the more certain will be the result. Antilueticin is injected subcutaneously, under aseptic precautions. The best place for injection is between the shoulder blades. The patient is not disturbed from his daily occupation during the treatment. The divided dosage is a very good method of administration, beginning with 0.025 and increasing to 0.05 antilueticin and continuing injections 4 or 5 days, until the entire quantity of 0.15 to 0.3 gram is reached. If the patient endure these injections well, they may be increased further so that patients can often take a daily dose of 0.6 to 1.0 antilueticin.

### THE TREATMENT OF TABES, ESPECIALLY IN ITS RUDIMENTARY FORM AND ITS RELATION TO PSYCHOPATHIC DISTURBANCE. NOEHTE, p. 999.

The author considers cases of tabes in detail, and concludes that: first, we do not as yet have a specific drug treatment against tabes. Mercury and salvarsan have a good effect in tabes, but must be used carefully and in small doses. Second, antisyphilitic treatment will not protect the patient against tabes, and even if used in the early stages of the disease, will not produce any favorable effect. Third, it seems that there is a very frequent combination of rudimentary tabes and psychopathic disturbances. Fourth, psychopathic disturbance and tabes mutually affect each other unfavorably, although occasionally an improvement in the psychopathic disturbance is accompanied by improvement in the tabes. Fifth, in the treatment of a combination of tabes and psychopathic disturbance, it is very important that the patient should know nothing about the relation of these diseases to an earlier syphilitic infection.

(*Ibidem*, May 29 xxxix, No. 22.)

### THE DIVISION FORMS OF PURE CULTURES OF SYPHILIS SPIROCHÆTÆ. H. NAKANO, p. 1031.

Ever since the discovery of the spirochætæ it has been questioned whether the organism belonged to the bacteria or protozoa. Schaudinn and Hoffmann demonstrated that the spirochætæ are divided lengthwise. The author has been working with pure cultures of spirochætæ pallidæ for three years, but has been unable to verify this method of division. As culture media, Nakano used horse serum, rabbit serum, guinea-pig serum, sheep and lamb serum and human serum, and as liquid media, serum water. In watching preparations, the author found spirochætæ divided cross-wise and not lengthwise.

The Herxheimer body could not be demonstrated by the author in stained or dark field preparations, and he believes that the spirochætæ pallidæ carry a flagellum, but he could not demonstrate an undulating membrane.

### THE IMPORTANCE OF THE ANALYSIS OF THE SPINAL FLUID AND BLOOD SERUM IN NEUROLOGY. D. M. KAPLAN, p. 1035.

The author made an analysis of 2,500 spinal fluids and of 12,500 Wassermann reactions. The material was mainly neurological. Kaplan agrees with Mueller that the following reactions should be carried out: Wassermann reaction in serum, Wassermann reaction in cerebro-spinal fluid, globulin determination, cell count, and Fehling reaction. Kaplan disapproves using a large quantity of cerebro-spinal fluid in the Wassermann test, because these large quantities will cause a non-specific inhibition. Kaplan says, first, that in syphilitic or para-



syphilitic diseases of the nervous system with normal cell count in the cerebro-spinal fluid, the Wassermann reaction is negative. Second, a positive Wassermann reaction in the cerebro-spinal fluid is almost always accompanied by a numerous cell count. Third, in untreated cases of meningeal and gummatous varieties, increased cell count is almost always present and frequently negative Wassermann reactions. Fourth, tabes and dementia paralytica usually show serological changes. Sometimes the tests are negative, more frequently so in tabes than in dementia paralytica. Fifth, all positive serological findings can be made normal by treatment.

The serological changes of syphilitic neurological diseases, are as follows:

1. In tabes, the Wassermann reaction in the blood and spinal fluid becomes negative, the globulin content becomes normal and the cell count becomes less.

2. In cerebro-spinal lues, the Wassermann reaction in the serum and spinal fluid becomes negative, globulin becomes normal, the cell count lower, but the increased count does not disappear entirely.

3. General paralysis and fully developed dementia paralytica are not at all affected by treatment.

The general conclusions drawn by Kaplan are: 1. Serology is of great importance in the diagnosis and treatment of nervous diseases.

2. It is possible to distinguish between syphilitic and non-syphilitic affections, and also between dementia paralytica and cerebro-spinal lues, even when the clinical distinction is not clear.

3. The cell content of the spinal fluid gives the clue whether a certain case of tabes should be treated specifically or not.

4. The serological picture in most syphilitic affections can be changed by specific treatment.

5. There is a difference in the characteristic serological picture in early and in well developed general paralysis. Fully developed paralysis should not be treated specifically. There is an increased protein content in the spinal fluid and no increase in the cell count.

(*Ibidem*, June 19, 1913, xxxix, No. 25.)

## SKIN DISEASES IN DIABETICS. BETTMANN, p. 1188.

Bettmann considers in detail various skin diseases in relation to diabetes, such as eczema, psoriasis vulgaris, trichophytosis, pus infections, herpes zoster and xanthoma diabeticorum.

The author concludes that the only skin disease that is specifically of diabetic origin is xanthoma diabeticorum.

## EFFECT ON THE OFFSPRING OF A MOTHER TREATED WITH SALVARSAN. SIGFRIED WOLFF, p. 1199.

The author reports a case, a mother who was treated very energetically during the 5 last months of her pregnancy, with salvarsan. During the first one and one-half months of its existence, the child showed no evidences of disease, gained normally in weight, was rather larger than smaller than normal. At the age of one and one-half months, the child was brought to the hospital because of dyspepsia. Ten days later, the child died. The pathological diagnosis was congenital lues with syphilitic changes in the meninges, liver, spleen, and the ends of the long bones.

## CONCERNING AUTOHÆMOLYTIC PROPERTIES OF THE GUINEA PIG SERUM AND THE CONSEQUENT ERRORS IN THE WASSERMANN REACTION. HEINRICH NEUE, p. 1210.

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### CONCERNING AUTOHEMOLYTIC PROPERTIES OF THE GUINEA PIG SERUM AND THE CONSEQUENT ERRORS IN THE WASSERMANN REACTION. MARCUS RABINOWITSCH, p. 1210.

The author concludes that if the laboratory man carefully titrate every complement he uses against the antigen and normal serum, before doing his Wassermann test, reliable results will always be obtained.

(*Ibidem*, June 26, 1913, xxxix, No. 26.)

### DEMONSTRATION OF LIVING SPIROCHÆTÆ IN THE BRAINS OF PARETICS. B. FORSTER AND E. TOMASCZEWSKI, p. 1237.

The authors obtained material in two cases of paresis, one patient by lumbar puncture, the other by puncture into the right brain. In both cases spirochætæ were found. Four other cases were examined, but no spirochætæ were discovered.

### SUPPOSED REINFECTION WITH SYPHILIS AFTER SALVARSAN TREATMENT. CARL STERN, p. 1247.

The author reports a case of undoubted reinfection after salvarsan cure. Stern emphasizes the care that must be taken in making the diagnosis of reinfection with syphilis in a cured patient and differentiating the same from a superinfection in a person still ill.

### CHICKEN POX IN ADULTS. LEOPOLD LILIENTHAL, p. 1247.

The author reports 6 undoubted cases of chicken pox in adults. All the cases showed a very profuse pustular eruption and looked like syphilis, but the further development of the cases confirmed the diagnosis of chicken pox.

(*Ibidem*, July 3, 1913, xxxix, No. 27.)

### PROPHYLAXIS AGAINST SYPHILIS BY MEANS OF QUININE SALVE. J. SCHIERESCHESKY, p. 1310.

At the Congress in Budapest, Neisser and Schereschewsky reported the prophylaxis against syphilis by local inunction for three minutes with 40% quinine salve. Experiments were so conducted that on the same animal, controls as well as the experiments themselves were tried. The monkeys were inoculated on the frontal part of the head and half of the surface was rubbed with a 40 per cent. quinine salve for three minutes, for 15 to 30 days; the primary lesions were seen on the part of the inoculated area not treated with ointment, while those parts treated with ointment showed no syphilitic appearances whatever. These later experiments, however, were conducted somewhat differently. The salve was rubbed in, two, three or four hours after the experimental inoculation in the monkey. All these experiments were successful, in that primary lesions were seen only on the experimental parts not anointed with quinine salve.

Other experiments were conducted as follows: A primary lesion was excised from human beings, was then transferred to Schereschewsky's horse serum and three or four hours later, inoculated into rabbits; primary lesions resulted.

The author concludes that there is no doubt that a 40 per cent. quinine salve is prophylactic in monkeys and should be used experimentally on human beings. In Moscow, several cases were treated with quinine salve—cases in which there was a primary lesion either on the breast of the wet nurse or on the mouth of the infant. During two years of examination of these cases, nothing of a syphilitic nature could be demonstrated, nor could spirochætæ be found at the site of inoculation.

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(*Ibidem*, July 10, 1913, xxxix, No. 28.)

SALVARSAN TREATMENT IN PROGRESSIVE PARALYSIS. RAECKE, p. 1349.

The author shows that salvarsan is not injurious to paralytics, if used carefully. Salvarsan seems to decrease the frequency and length of attacks and prolongs the life of the patient. Whether the improvement be due to the salvarsan or not, can only be definitely concluded after lengthy observation. At the present time, however, from the general effect on cases already handled, the author can recommend a methodical salvarsan treatment in cases of general paralysis.

SYPHILIS AND NEURASTHENIA. WALTER KREBS, p. 1358.

The author reports cases in detail and draws the following conclusions: First, there is a syphilitic neurasthenia in early as well as in late stages of syphilis. Second, in all neurasthenics who give a history of previous infection with syphilis, the Wassermann reaction of the blood is to be done. If this result be negative, then examination of the cerebro-spinal fluid should be done also. Third, in all positive results, an anti-syphilitic treatment with mercury, salvarsan and potassium iodide should be instituted. Fourth, patients should receive a series of treatments, even after having taken treatment for the first two or three years after infection.

EXPERIENCES WITH IODIOSTARIN IN THE TREATMENT OF SYPHILIS. EDUARD BAUMER, p. 1361.

Iodiosstarin is a light iodide of tartaric acid; is insoluble in water but soluble in alcohol and ether; it is not hygroscopic and not sensitive to light, it passes through the stomach unaltered and is dissolved in the alkaline intestinal juices; it is only very slightly poisonous; in 30 to 40 minutes after taking iodiosstarin, the iodine is present in the urine.

After rather a limited experience with the use of this new compound, the author states that iodiosstarin shows a good and rapid effect according to the size of the dose, which must be determined in each case. The preparation is of advantage because it does not produce iodism, has no unpleasant taste and is relatively cheap.

(*Ibidem*, July 17, 1913, xxxix, No. 29.)

SIMPLIFICATION METHODS FOR PURE CULTURE OF THE SYPHILIS SPIROCHÆTÆ. J. SCHIERESCHESKY, p. 1408.

The author explains in detail the method and preparation of the horse serum for growing spirochætæ pallidæ, and also the method of handling material, after obtaining the same from the patient.

ABSORPTION OF MERCURY BY INUNCTION. H. BORUM, p. 1409.

The author recommends particularly the use of vasogen as a base for mixing mercury ointments and shows by experiments on animals that the absorption was greater when this base was used.

(*Ibidem*, July 24, 1913, xxxix, No. 30.)

THE HEALING OF SYPHILIS BY MEANS OF A COMBINED SALVARSAN-MERCURY TREATMENT. W. SCHOLTZ AND E. RIEBES, p. 1441.

Originally the authors used the following combined treatment: two or three doses of 0.3 gram salvarsan were given intravenously, on two successive days.

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This was followed by four or five weeks of energetic mercury treatment (combined inunctions and injections), then salvarsan doses were repeated and the mercury was continued for two or three weeks. This last year, however, the authors have used three or four intravenous salvarsan injections on two successive days. For example, they gave at 9 a. m. 0.3 gram salvarsan, at noon, a second dose of 0.2 salvarsan, and the next morning, a dose of 0.3 gram; at noon on the second day, 0.2 or 0.15 salvarsan, so that the patient as a rule received 0.9 or 1.0 grams of salvarsan intravenously, within two days—even within 28 hours. The patient received two or three of these salvarsan treatments, interspersed with mercury, as outlined above. Observation, and treatment if necessary, are continued during a few years.

The authors claim that with this method of salvarsan-mercury treatment, most of the cases of syphilis come to an absolute cure. The percentages claimed are, in primary syphilis, 90 to 100 per cent. and in early secondary, 80 to 90 per cent. Salvarsan seems preferable to neosalvarsan, because intoxications do not appear so frequently. Those cases that show an acute oedema of the brain or hemorrhagic encephalitis and those that usually end in death, are due to neosalvarsan intoxications. Why salvarsan and neosalvarsan produce different forms of intoxication, has not as yet been satisfactorily explained.

### IS PSORIASIS A SYMPTOM OF SOME CHRONIC INFECTIOUS DISEASE (TUBERCULOSIS, SYPHILIS)? W. SCHOENFELD, p. 1446.

The author shows that it has not as yet been proven, nor even made to appear probable, that psoriasis is not a disease by itself rather than a symptom of some other disease. Schoenfeld admits that skin lesions simulating psoriasis might occur in various diseases. No proof has as yet been advanced that psoriasis has any relationship to tuberculosis or syphilis.

### THE SERUM TREATMENT OF SKIN DISEASES. GUSTAV STUEMPKE, p. 1447.

Blood transfusion had no effect whatsoever on various forms of psoriasis, seborrhæic eczema or parasitic eczema, while two cases of pruriginous eczema with excessive itching, became well clinically and subjectively, while a third case was greatly improved by three injections, but was not cured until after arsenic had been used. A case of Hebra's prurigo was unaffected by injection of serum. In two cases of lichen ruber planus, one was entirely cured in 14 days, while the other was greatly improved. One case of herpes gestationes was absolutely cured. In cases of urticaria the itching was greatly reduced.

The author states that the method of serum transfusion is still too new and has been used too little to enable him to give any definite opinion. It is true, however, that a series of stubborn dermatoses reacted favorably to blood transfusion.

(*Ibidem*, July 31, 1913, xxxix, No. 331.)

### MODERN ROENTGEN THERAPY WITH PARTICULAR EMPHASIS ON THE THERAPY OF THE SUPERFICIAL PARTS OF THE BODY. FRITZ M. MEYER, p. 1508.

This is a general consideration of the subject taken up from historical standpoints, and including a consideration of the Roentgen treatment of skin conditions. The author gives a complete resumé of the subject.

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(*Ibidem*, August 7, 1913, xxxix, No. 32.)

### LATE INJURY OF THE SKIN AND INNER ORGANS AFTER THERAPEUTIC ROENTGEN TREATMENT. H. E. SCHMIDT, p. 1553.

The author shows that after the application of Roentgen rays in large doses, even rays that are hard and filtered, ulceration of the skin can appear three months to one and one-half years after the end of the treatment, without there ever having been present an X-ray erythema and without the skin ever having become atrophic. Parts of the body exposed to external irritation and unfavorable conditions of circulation, as for example on the leg, are prone to the occurrence of X-ray ulcerations, more so than would be produced by similar exposure on other parts of the body. These late ulcerations are not to be confused with those ulcerations occurring after unfiltered, soft Roentgen exposures that produce atrophy of the skin. The inner organs, particularly the digestive tract, might be the seat of late injuries after the application of large-dosaged, hard, filtered X-rays.

Therefore, the author concludes that intensive raying is in general to be discouraged. Doses should not be any greater than are absolutely necessary for the desired effect, even if the effect should not occur so quickly as might be produced otherwise.

(*Ibidem*, August 14, 1913, xxxix, No. 33.)

### PSORIASIS AS A CONSTITUTIONAL DISEASE. MENZER, p. 1599.

Histological investigations show that the cause of the inflammation in psoriasis is present in the upper layers of the cutis, and that the epithelium is only secondarily affected. The author has demonstrated this by finding bacteria in the upper layers of the cutis.

The author considers in detail 10 cases of psoriasis and shows that all of them have some tuberculous infection in some part of the body; 9 of these 10 cases reacted to a dose of .1 to .5 milligram tuberculin, in that the reddening and scaling of the psoriasis lesions were increased. By continuation of the tuberculin treatment there was a slow improvement of the lesions.

The author has been able to demonstrate the same phenomena in 30 psoriasis cases, most of which have been recorded at some other time. He says that Schoenfeld's report that in 19 of 23 cases of psoriasis there was a reaction after .5 to 1 milligram of tuberculin, shows that his statement that psoriasis appears in healthy individuals is not correct. The negative tuberculin reaction in 4 cases does not say positively that tuberculosis is not present.

The author concludes that psoriasis is a skin symptom of a constitutional bacterial disease, and that disease is latent tuberculosis. In support of this are seen the clinical findings, that is, the internal examinations and tuberculin tests; the tuberculin reaction expresses itself in increased reddening and scaling of the psoriasis lesions, often in the appearance of new lesions; by continuation of the tuberculin injections, the lesions gradually improve.

(*Ibidem*, August 21, 1913, xxxix, No. 34.)

### AUTO-FIXATION OF SERA, A SYMPTOM OF LUES. JOSEF TRINCHESE, p. 1636.

Auto-fixation of sera occurs very seldom. It occurs about once in 500 times. By an auto-fixation in a Wassermann reaction the author does not mean a slight clouding as the end result, but a pronounced cloudiness which remains permanent for 24 hours in the presence of antigen.

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The author writes in detail about several cases of auto-fixation. How does this binding of complement occur? It must be that there is antigen present in the serum itself or else there could be no fixation of complement after the addition of another antigen. The author shows that clinical experience demonstrated that auto-fixation in the original Wassermann reaction can occur only in luetic sera or sera that was suspiciously luetic.

The auto-fixation is due to the presence of antigen in luetic sera. This auto-fixation is a symptom of syphilis.

### THEORY OF EMBOLISM IN PARAFFINE INJECTIONS. EGON HARTUNG, p. 1641.

The dangers of embolism from paraffine injections are considered by the author unfounded. Of course, there is danger if the injection be made directly into a large vein that leads directly to the heart.

The author's method of injection makes all fear of paraffine embolism disappear. The author uses a tourniquet so as to keep the paraffine mass in the place where it is injected, until it has hardened. This can be easily accomplished in dealing with extremities.

As regards the defects in the nose, the author considers small defects can be easily repaired by paraffine injection, without any attention being paid to cutting off the blood supply temporarily. Large defects of the nose should not be treated with paraffine injection, because of the great stretching of the skin that would be necessary for a good result.

### PHENOLCAMPHOR IN CHANCROID. KARL RUEHL, p. 1643.

The preparation that the author used in treating chancroids was as follows: Acid carbolic 30.0 grams, camphor 60.0 grams, alcohol 10.0 grams. This preparation has been used by other investigators and the author can heartily agree with them in their findings.

In all cases of chancroid the author has used this phenolcamphor mixture with success. The buboes that have been opened and subsequently swabbed with some drops of this solution have also healed nicely.

(*Ibidem*, Aug. 28, 1913, xxxix, No. 35.)

### ATTEMPTS WITH IMMUNIZATION AGAINST SYPHILIS BY MEANS OF PURE CULTURE OF SPIROCHÆTÆ. J. SCHERESCHESKY, p. 1676.

Experiments were made on monkeys, immunizing them against syphilis by injecting pure cultures of spirochætæ. Six apes were used in these experiments. One received 1.5 cc. living pure culture, three times during one week, as an injection at the base of the tail. Four received pure cultures of spirochætæ that had been mixed with antiformin and heated to 60° centigrade. Six days after the last injection, all the apes (one was kept as control) were injected with syphilitic material that was taken from the same patient. The material was inoculated on the forehead of the apes.

The effects of these vaccinations were as follows: 13 days after, the one ape that had received 1.5 cc. of the living culture injection showed a macular eruption, which a few days later, became a typical intense chancre. This condition lasted 30 days, and was an unusually severe manifestation for a monkey. With this case it can be deduced that the preparation of the animal with living spirochætæ acted as a stimulus for acquiring syphilis.

The control monkey showed, 15 days after the infection, a very pronounced syphilitic appearance. The 4 monkeys treated with the dead vaccine showed no syphilitic lesions 6 weeks after the infection. Similar experiments were repeated

but with the intravenous use of the vaccine, with equally good results. These experiments show that the protective properties are not present in the living spirochætae, but in the endo-toxins produced by them.

The vaccine described previously (mixture of the spirochætae with antiformin and heating to 60°c.), is harmless for intravenous injections in rabbits and monkeys, and in subcutaneous injection in the human being. The effects of the cutaneous reaction with the antiformin extract, show the mildest reaction compared to other extracts. They were seldom positive in primary and secondary syphilis, frequently positive in tertiary, especially in parasyphilitic cases, and always negative in nonsyphilitic patients.

Schereschewsky describes the method for producing spirochætae in pure culture.

## MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Jan. 7, 1913, lx, No. 1.)

Abstracted by FREDERICK G. HARRIS, M.D.

### MORE ABOUT THE TREATMENT OF SCLERODERMA WITH CELIACIN. WILLIAM KOLLE, p. 24.

In the *Muenchener Medizinische Wochenschrift*, No. 16, 1912, the author described a severe case of diffuse scleroderma treated with celiacin, which is an extract of the mesenteric glands. The case as previously described, had improved greatly under the treatment, which consisted of one tablet three times a day, each tablet corresponding to 0.3 gm. of the dried gland substance.

The patient was under observation 1½ years, at the end of which time she had gained 24 pounds in weight and the skin was practically normal, except the hands and feet, these, however, having greatly improved.

### TREATMENT OF MALIGNANT TUMORS WITH RADIO-ACTIVE SUB- STANCES. ALBERT CAAN, p. 9.

The author gives a resumé of his experience at the Heidelberg Institute in the treatment of 250 cases of malignant tumors. In the great majority, a favorable effect was produced.

Five cases of malignant stenosis of the œsophagus were made permeable for solid food. In 79 cases of recurrent carcinoma of the breast, superficial as well as deep carcinomatous nodules disappeared. In 30 cases of carcinoma of the face and 12 of the lip, treatment almost always caused necrosis of the tumor, followed by healthy granulations.

Only 3 of the 12 tongue cases were improved. In general, carcinomata of the mucosa of the mouth and pharynx seemed less amenable to treatment; in fact some seemed to become more malignant.

Two hundred and six cases were treated with thorium-X both intra tumoral and intravenously; 40% showed improvement.

In most of the cases the mesothorium and thorium-X treatment were combined with X-rays, salvarsan or cholin injections.

The author considers that mesothorium and thorium-X should be reserved for post-operative treatment or non-operable cases.

(*Ibidem*, Jan, 14, 1913, lx, No. 2.)

### THE TREATMENT OF SYPHILIS WITH CONTRALUESIN (RICHTER), A MOLECULAR MERCURY. E. KLATSNER, p. 62.

Contraluesin is a preparation of metallic mercury originated by Richter, in which the mercury is very finely divided (size of cocci). Each 1 cc. ampule con-

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tains 0.15 gm. of mercury; one ampule being injected intramuscularly every five days.

Klausner has tested the preparation in fifty cases of syphilis of all stages and finds it of great value, even palmar syphilides being healed after 3 to 5 injections. The author recommends the preparation enthusiastically.

### NEOSALVARSAN IN PARENCHYMATOUS KERATITIS. H. HOEHL, p. 72.

In 4 cases of parenchymatous keratitis in which 1 to 2 drops of a 2½% solution of neosalvarsan was dropped in the eye twice a day, Hoehl could see no result.

### THE EFFECT OF THE INTRAVENOUS INFUSION OF GOLD AND POTASSIUM CYANATE ON EXTERNAL TUBERCULOSIS AND SYPHILIS. CARL BRUCK AND A. GLÜCK, p. 57.

One to 3 cc. of a 1% aqueous solution, corresponding to 0.01 to 0.03 gm. of the drug in 50 cc. of salt solution were given intravenously every 2 or 3 days for 12 injections or even up to 21.

In most cases, the diseased areas, 24 to 48 hours later, showed a local reaction similar to a tuberculin reaction. After 2 or 3 infusions, most cases showed decided improvement, the inflammation became less, the infiltrated borders became flatter, ulcerated areas became cleaner and covered with epithelium. The effect was not so marked on the verrucous form or on caseated nodules in the scar tissue.

The article is accompanied by detailed reports and some illustrations which certainly show very marked improvement.

They noticed that cases receiving tuberculin and treated during the height of the reaction with gold and potassium cyanate, showed more decided improvement than those getting the gold preparation alone. In syphilis, both primary and secondary, the preparation had about the same value as energetic mercury treatment, but the effect was nothing to compare with that of salvarsan. In tertiary cases the effect was almost equal to that of salvarsan. The dosage in adults is 0.02 to 0.05 gm. every 2 or 3 days. In children, from 4 to 6 years old, the dosage is 0.005 to 0.03 gm. every 2 or 3 days. Higher doses than 0.05 gm. are not advised, although the authors have repeatedly given as much as 0.08 gm. However, doses of this size have occasionally been followed by transient icterus.

(*Ibidem*, Jan. 28, 1913, ix, No. 4.)

### ADDENDUM TO ARTICLE, "CURE OF A CASE OF SARCOMATOSIS OF THE SKIN BY THORIUM-X." KARL HERXHEIMER, p. 185.

Last year Herxheimer reported a case of multiple skin sarcomata, all the growths of which disappeared under injections of thorium-X. The improvement, however, was of short duration, as 5 weeks later, new nodules appeared and in spite of additional thorium-X injections, the patient died with wide spread metastasis in the internal organs.

### THE QUESTION OF ROSS' DISCOVERY OF A NEW CAUSE OF SYPHILIS. V. SCHILLING, p. 186.

Schilling discusses the work of Ross in connection with his own, along the same lines. He thinks Ross' technic is too complicated and advises his own simplified one, as published in the *Zentralblatt fuer Bakteriologie*. Bd. 58 and 59.



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(*Ibidem*, Mar. 4, 1913, lx, No. 9.)

### THE INFLUENCE OF THORIUM-X ON GERMINATING PLANTS. FRIEDEL KAHN, p. 454.

In studying the effect of thorium-X on growing seeds, Kahn writes that the substance acted according to the rules of a poison, small doses having a stimulating action, while large doses inhibited or disturbed the growth.

(*Ibidem*, Feb. 4, 1913, lx, No. 5.)

### ON THE VALUE OF THE BRENDDEL-MÜLLER REACTION, H. C. PLAUT, p. 230.

In the *Muenchener Medizinische Wochenschrift*, No. 32, 1912, Brendel and Müller describe the technique of a simplified Wassermann reaction, which in brief, consists in using the complement and amboceptor contained in the patient's own serum. Plant reports on 70 cases which were tested both by the Wassermann technique and the Brendel-Müller. In 49 cases the result was the same. In 21 cases the result was diametrically opposite.

The author adds two controls to the method of Brendel and Müller, and concludes that with these controls, the method is of value as a check, but does not displace the original Wassermann reaction.

(*Ibidem*, Feb. 18, 1913, lx, No. 7.)

### TWO CASES OF NEOSALVARSAN POISONING. PAUL WAHLE, p. 354.

Case 1. Primary syphilis with positive Wassermann, received 0.9 gm. of neosalvarsan intravenously. Three hours after, he had emesis, diarrhoea, headache, loss of appetite and a burning feeling in the throat. Two days later the urine examination showed a marked albuminuria with hyaline and granular casts and red blood cells. Ten days later the patient was discharged with normal urine.

Case 2. Secondary syphilis and normal urine findings; the patient also received 0.9 gm. of neosalvarsan, which was followed in half an hour by a chill, temperature and later repeated emesis, headache, muscular pains, temperature of 101.8 F., scanty urine, showing a few hyaline and granular casts and an enormous amount of albumin. The emesis and oliguria continued for six days. The patient recovered after a left sided pneumonia and a right exudative pleurisy.

The author does not think the technique or the water could be at fault and explains the severe reactions in the idiosyncrasy of the patients.

(*Ibidem*, Feb. 25, 1913, lx, No. 8.)

### PERMANENCE OF THE ABORTIVE TREATMENT WITH SALVARSAN DURING 1910-1911. HUGO MÜLLER, p. 408.

Müller reports on 39 cases of syphilis with negative Wassermann, which he had treated with 2 to 3 injections of salvarsan, each of 0.4 to 0.5 gm. The cases also received 5 injections of 0.05 to 0.07 gm. of 40% calomel and 5 injections of 40% gray oil. When possible the primary lesions were excised; where excision was not possible deep cauterization was done.

Thirty of the cases received the complete treatment and could be followed for a year after the end of the treatment; all remained without symptoms and with a negative Wassermann.

Although too early to draw conclusions, Müller thinks that the 1912 series of cases treated with neosalvarsan will show a similar result.

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## RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH BOLEZNEI.

(January, 1913, xxv, No. 1.)

Abstracted by M. L. RAVITCH, M.D.

### A CASE OF LICHEN VARIEGATUS—PARAPSORIASIS LICHENOIDES (BROCCQ). LEVCHENKOV, p. 3.

Looking over the literature of this rare disease and reviewing the different names under which this disease is known, Levchenkov comes to the conclusion that Brocq's designation "parapsoriasis lichenoides" is the most acceptable one, as the name characterizes the real clinical picture of this affection. He cites a case of a theological student who had this affection for over a year and a half previous to his admittance to the hospital. He received various kinds of treatment without any result. Wassermann's test and von Pirquet's tuberculin injection gave negative results. While in the hospital, the patient's erythematous skin assumed a papular form; the latter lasted from ten to twelve days, then dried up, became squamous and gradually cleared up. In a short time the skin again went through the same changes. While von Pirquet's test gave a negative result, old tuberculin (Koch) gave a positive reaction. A section was taken and the microscope showed superficial inflammation of the corium with secondary changes in the epidermis; cell infiltration in the papillary layer and slight increase in the prickle cell and horny layers. All kinds of treatment were tried without permanent relief.

(*Ibidem*, February, 1913, xxv, No. 2.)

### TWO CASES OF RARE SKIN DISEASES. NÆVUS PIGMENTOSUS AND FIBROMA MOLLUSCUM MULTIPLEX. RAZUMOVSKI, p. 103.

Razumovski reports two interesting cases of nævus pigmentosus and fibroma molluscum multiplex. The first case, that of nævus, was quite extensive. It had patches measuring from three to four centimetres. A section showed an increased pigment deposit in the cells of the rete mucosum and also in the corium.

In the case of fibroma molluscum multiplex, the author counted 5868 tumors, distributed as follows:

Head (face, neck and scalp).....	963
Body .....	3515
Right upper extremity .....	493
Left upper extremity .....	495
Right lower extremity .....	181
Left lower extremity .....	191

In the case of nævus, the author lays stress on the benefit of the radium treatment, while in fibroma, Pusey's carbon dioxide snow treatment, as modified by Nyström, is recommended.

(*Ibidem*, March, 1913, No. 3.)

### A CASE OF IODERMA TUBEROSUM FUNGOIDES. POSPICLOV, p. 200.

Pospiclov lays great stress on extensive exanthems due to iodides and regrets the fact that physicians often fail to diagnose such cases. "Hence the injurious treatment," as Hallopeau used to express it. Prolonged medication with iodides may not have any influence, while a small dose may cause violent eruption. The author cannot understand the word "idiosyncrasy." He wants a more scientific

definition. In the case cited by the author, the patient had a typical case of iodine eruption, resembling certain phases of mycosis fungoides.

A CASE OF TRAUMATIC SYPHILIS. SADOVSKI, p. 163.

Troitzki, reviewing the *Military Medical Journal* for January, 1913, abstracts Sadowski's interesting case, where a man contracted syphilis by hitting a soldier on the mouth with his fist. In striking, the man's finger was abraded. The abrasion healed in three days, but syphilitic saliva of the soldier must have gotten into the abrasion. In a month, a chancre appeared on the site of the abrasion. It was treated surgically. The sore healed but the finger remained thicker than the one on the other hand. Two weeks later, syphilitic roseola developed all over the body. Under a thorough course of mercury all the syphilitic symptoms disappeared.

(*Ibidem*, April, 1913, No. 4.)

A CASE OF BROMODERMA VEGETANS. VERSILOVOI, p. 311.

Versilovoi reports a very interesting case of bromoderma vegetans. The patient, a woman of 35, suffered from epilepsy and took various preparations of bromides. Upon examination, one extensive and two small acuminate bullæ were found on the right leg. The bullæ were uneven and of soft consistency. She also had a pustule on the cheek and one on the shoulder. Later, vegetating lesions came on the site of the bullæ. A section of the diseased tissue was made. The microscopical picture verified the diagnosis of bromoderma vegetans, as described by other writers. Plasma and mast cells were found, as were numerous eosinophile cells. Blastomycosis and sporotrichosis were excluded. Under infusion of valerian and chloral hydrate internally, and diachylon ointment externally, the lesions disappeared.

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## BOOK REVIEW.

ENTRETIENS DERMATOLOGIQUES À L'ÉCOLE LAILLER (HÔPITAL SAINT-LOUIS) par le Dr. R. SABOURAUD, chef du Laboratoire Municipal de la Ville de Paris à l'Hôpital Saint-Louis. Avec 49 figures dans le texte. 520 pages. *Octave Doin et Fils*, Paris, 1913. Price, 9 francs.

The author's explanation of the purpose of the book and the plan upon which it was written are to be found in the preface. It is said that Sabouraud had no intention of writing a text-book in which every cutaneous disease should be described, nor yet a book filled with technical terms intelligible only to the specialist. On the contrary, it was his chief desire to consider solely the daily need of the general practitioner and, using this as a basis, to produce something which should be of practical value to him. The moving spring underlying this purpose was Sabouraud's belief that the average physician knows little or nothing about the common diseases of the skin frequently encountered in daily practice and his further belief that this ignorance is largely the result of bad methods of teaching. The presentation has lacked that "clarity which is the prime essential of all good teaching." The plain facts have been obscured and confused by too liberal an admixture of theory and hypothesis. Sabouraud, writing for the general practitioner, adopted two chief rules: the book should be consecrated "to the most ordinary and the most frequent diseases," and it should avoid technical language and theories, except in so far as the latter might serve

the immediate, useful purpose of clarifying some practical point in diagnosis or treatment. He meant, above all other things, to make the book "practical."

The weekly clinical talks which Sabouraud gives at the Saint-Louis furnished the material. Selecting such as dealt with "the most ordinary and the most frequent diseases," he first rewrote them after the manner of articles and then published the collection in one volume under the title of *Entretiens Dermatologiques*.

The book is divided into seven sections, in each of which is a number of short articles on special topics. The general subjects discussed in the sections are respectively: Seborrhœal Diseases; Alopecia and Alopecia Areata; Parasitic Diseases; Bacterial Diseases; Eczema and Prurigo; Medical Therapeutics; and Dermatological Minor Surgery.

Sabouraud has successfully accomplished his declared purpose and, in "*Entretiens Dermatologiques*," has presented the so-called common diseases of the skin so clearly and so forcefully, that any general practitioner must understand. He has done even more. He has written a book which will also interest the specialist. The intimate tone of the articles and their style, so essentially French, make these clinical discourses delightful reading for every one.

H. P. T.

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### ERRATA.

On page 752, under the heading of "Histological Report," the second paragraph should begin with the following sentence: The stratum corneum shows a slight parakeratosis.

On page 798 the following names should have appeared in the list of Assistant Attending Dermatologists at the Vanderbilt Clinic: Dr. C. T. Stevens, Dr. William Blancard, Dr. Charles T. Sharpe, and Dr. Charles John Harbeck.

### NEWS ITEM.

In 1904, Dr. George T. Jackson obtained the photographs of the members of the American Dermatological Association from its organization in 1876 to the time of publication in 1904.

We have just received from Dr. Jackson, a second volume which contains photographs of members elected since 1904.

The two volumes comprise a very complete, interesting and valuable photographic record of the members of the Association, many of whom are no longer with us.

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### NOTICE.

#### DERMATOLOGICAL THERAPEUTICS.

One reason for establishing this department was to encourage our contributors to write articles on practical therapeutics. We will be pleased to receive articles of therapeutic interest for publication under this heading.











RL            The Journal of cutaneous  
l            diseases including  
J6            syphilis  
v.31

Biological  
or Medical  
Serials

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